

SERVICE MANUAL

DIGITAL COMPUTING PRINTING SCALE

SM-300

Edition 6

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12. **APPENDIX 1 – Spec List**

DIGI®

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Screen displays, operating procedures and supporting features might vary with different software version releases.

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ii) Safety Information

The operator of the equipment shall comply with the safety and warning indications and procedures outlined in this document. Teraoka Weigh-System Pte Ltd assumes no responsibility or liability for failure to comply with these requirements.

- To avoid electric shock, use only the supplied power cords and ensure product is connected to a properly grounded supply.
- For continued protection against fire hazard replace only with fuse of same rating and type.
- Ensure product is placed on a firm and level surface before operation.
- Avoid overloading the product beyond its rated maximum capacity
- Ensure commodity to be weighed is loaded centrally on the platter.
 - avoid placing commodity on corners or edges.
- Care shall be taken during the following operations
 - Receipt paper tearing – to prevent injuries from cutting from paper cutter
 - Changing of labels and receipt paper - to prevent injuries from cutting from paper cutter and movable printer mechanism.
- Trained and qualified personnel shall only carry out repair and servicing of product.

Disclaimer:

Specifications are subject to change without notice. All dimensions shown are approximate. Please be aware that Teraoka has indicated that its hardware and software used in the product may require additional updates in the future as our product is continually under development. The need for such updates most likely applies to the Printer software.

CAUTIONS:

1. FOR **PLUGGABLE EQUIPMENT**, THAT THE SOCKET-OUTLET SHALL BE INSTALLED NEAR THE EQUIPMENT AND SHALL BE EASILY ACCESSIBLE.
2. FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE AND RATING OF FUSE.
3. DANGER OF EXPLOSION IF BATTERY IS INCORRECTLY REPLACED. REPLACE ONLY WITH THE SAME OR EQUIVALENT TYPE THAT RECOMMENDED. DISPOSE OF USED BATTERY ACCORDINGS TO THE MANUFACTURER'S INSTRUCTIONS.

1. GENERAL

1.1 Model Specification

Model	:	SM 300		
Variation	:	Pole	-	SM 300 P
		Bench	-	SM 300 B
		Elevated	-	SM 300 EV
		Self-service	-	SM 300 EBS
		Hanging	-	SM 300 H
Platter Size	:	360 X 277 mm		
		Φ 274 mm (Hanging)		
Capacity	:	Capacity		
		6 Kg		
		15 Kg		
		30 Kg		
Key	:	Mechanical Switch		
Dimension (in mm)		SM 300 Pole	-	478 (L) X 378 (W) X 540 (H)
		SM 300 Bench	-	410 (L) X 378 (W) X 140 (H)
		SM 300 Elevated	-	478 (L) X 378 (W) X 630 (H)
		SM 300 Self-service	-	478 (L) X 482 (W) X 743 (H)
		SM 300 Hanging	-	310 (L) X 340 (W) X 844 (H)
Number Of Preset Key	:	SM 300 Pole	-	56 Preset keys;
		SM 300 Bench	-	32 Preset keys;
		SM 300 Elevated	-	56 Preset keys;
		SM 300 Self-service	-	48, 60, 96, 120 Preset keys;
		SM 300 Hanging	-	56 Preset keys
Display Resolution	:	1 / 3000 (Multiple Interval)		
		1 / 6000 (Single Range)		
		1 / 7500 (Single Range)		
Internal Resolution	:	1 / 60000		
Display	:	LCD with back light (136 X 16 Dots with icon)		
		A) Tare Weight	:	4 digits
		B) Weight	:	5 digits
		C) Unit Price	:	6 digits
		D) Total Price	:	7 digits
Printer Type	:	Drawer Type		
		A) Paper	:	Label & Receipt
		B) Paper Width	:	For Label - Max. 60 mm
				For Receipt - 40, 50 or 60 mm
		C) Resolution	:	8 dots / mm
		D) Speed	:	For Label - 80 mm / sec
				For Receipt - 100 mm / sec
Memory	:	1 M Byte (Standard)		
		2 M Byte (On board max.)		

Remarks: Although the label and receipt maximum width can be select, 60 mm, but the maximum printable width is 56 mm.

1.2 Operating Specification

Power Source	:	AC Supply 100V – 120V AC Supply 200V – 240V
Frequency	:	50 - 60 Hz
Operating Temperature	:	-10 °C to 40 °C (14F to 104F)
Humidity	:	15 % to 85 % RH
Waterproof	:	N.A. (Please do not splash water on top or around the scale. Clean scale only with a damp cloth)

1.3 Type of Interface

Standard	:	RS 232C (FL-1, PC connection) Cash drawer
Optional	:	RS 485 (PC connection) Ethernet (Client / Server, TCP / IP protocol)

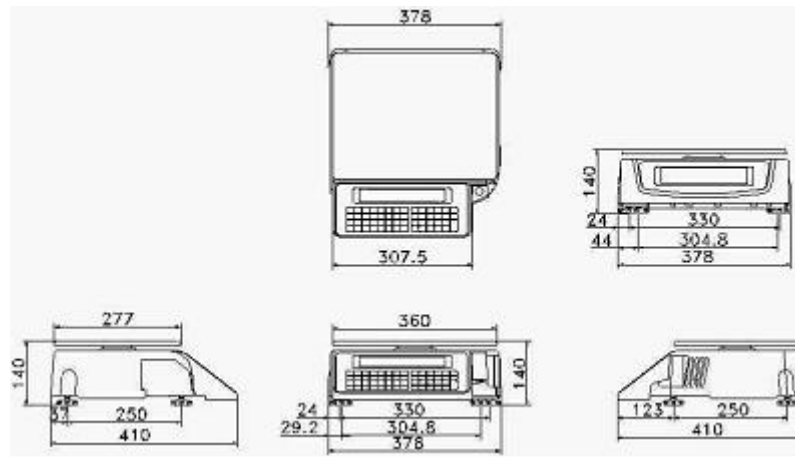
* Interface with PC can either use RS 232C, RS 485 or Ethernet.

1.4 Main Components

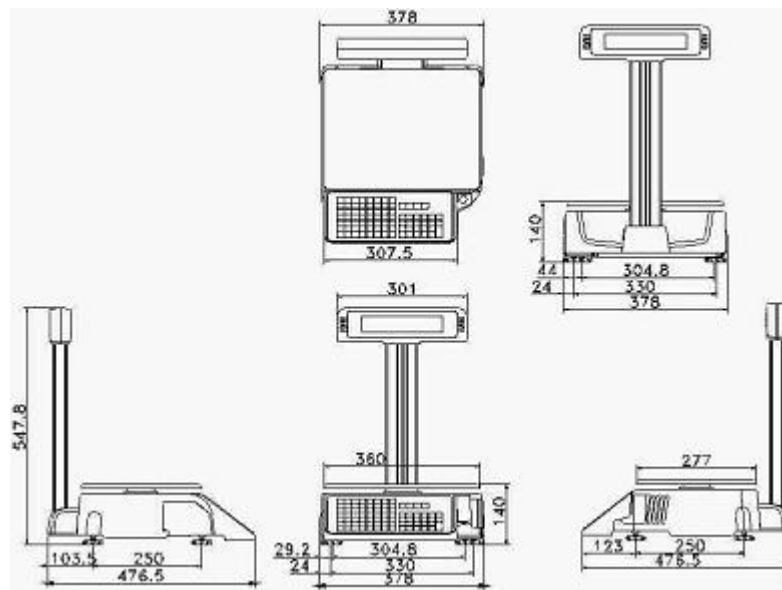
Main CPU	:	Hitachi HD6413003RF16 (H8 / 3003)
Flash Memory	:	MBM29F160BE-70
SRAM	:	Hyundai HY628400ALLG-55 (Normal pin) Mitsubishi MEM5408ART-55LL (Reverse pin)
Display Device	:	International D (LCD 5358 SYBYTNZ-T)
Printing Head	:	Kyocera KYT-56-8MPP1-TRS2 (Please clean thermal head regularly to prolong usage life)
DC Stepping Motor	:	MINEBEA STEPPER MOTOR 23LM-C035-K54V
A / D Converter	:	TERAOKA TWB-09000
Power Supply	:	NEMIC Lambda Switching ZD75-0524/1

2 OVERVIEW

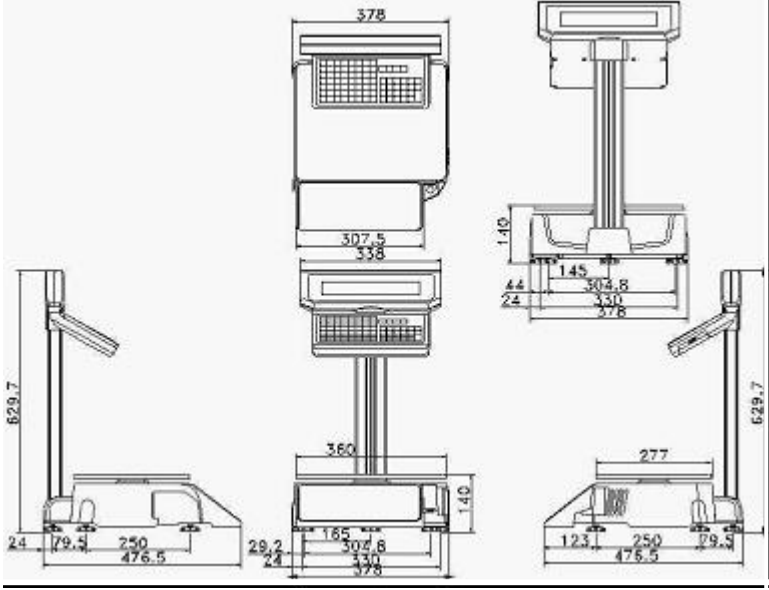
2.1 Dimensions



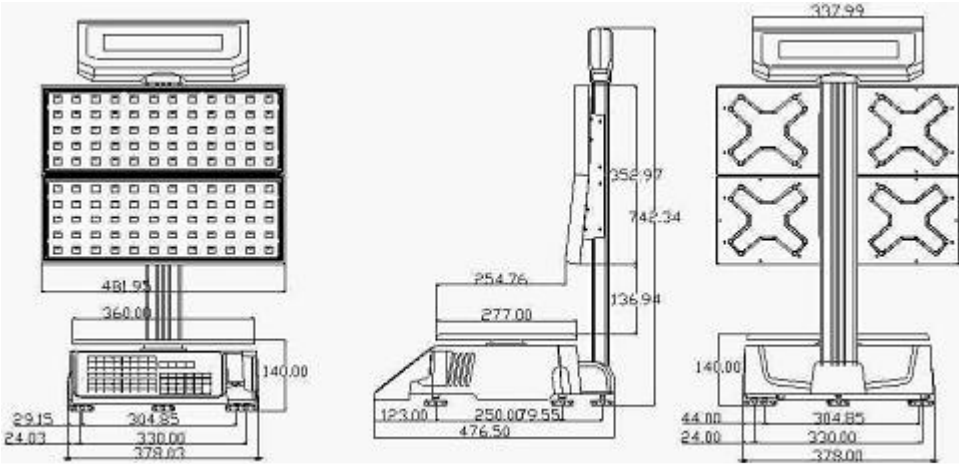
Bench Type



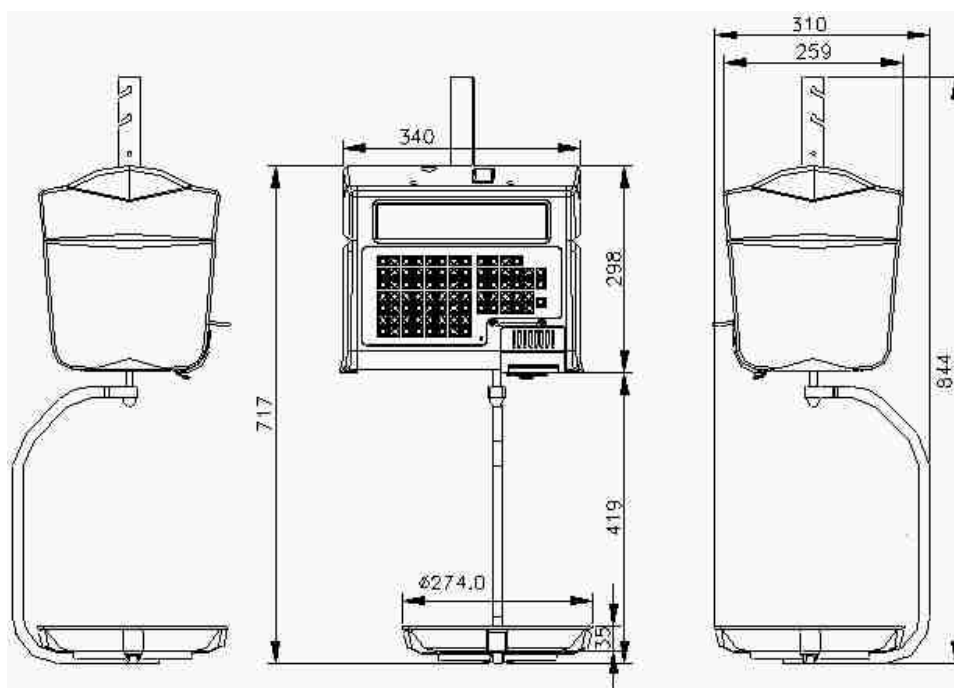
Pole Type



Elevated Type



Self Service Type



Hanging Type

2.2 Key Sheet Layout



32 Preset Keys For Bench Type



56 Preset Keys For Pole & Elevated Type



Numerical + 4 Accumulation Key For Self Service



56 Preset Keys For Hanging Type

ON / OFF KEY



* Turn display ON or OFF.

NUMERIC KEYS



To



* Enter numeric data.

TARE KEY



* Set or Clear Tare Value.
 * Select " NO " in S and Z Mode.
 * Item Test print in S Mode.

CLEAR KEY



* Clear numeric values.
 * Select " YES " in S and Z Mode.

RE-ZERO KEY



* Reset weight to zero.

PRE-PACK KEY



* Switch Manual mode and Pre-pack mode alternatively.
(The mode status will be indicated in the P and M indicator.)
▪ P - PRE-PACK MODE ▪ M - MANUAL MODE

CHANGE KEY



* Calculate the Changed Amount.
* Escape the Programming screen without saving data in S mode.

MULTIPLE KEY



* Register the number of Non-Weight products.
* Select programming item such as PLU data, Shop Name in S mode.
* Select Report Type in X mode.
* Select Data Transaction Type in Z mode.

CLERK KEYS



* Accumulate the Total Price.

VOID KEY



* Correct the Sales Data

PLU KEY



* Call up PLU data.
* Store the programmed data in S mode.

FEED KEY



* Feed Label or Receipt

PRINT KEY



* Print out Label or Receipt

MODE SELECT KEY



* Five Modes can be selected using this key.
Indicator R - REGISTRATION MODE (All the sales transactions are performed.)
Indicator X - CHECK MODE (Printing out and sales report.)
Indicator S - PROGRAM MODE (Programming preset data, such as products,

data, shop name, etc.)
 Indicator Z - TOTAL MODE (Clear sales data stored.)
 Indicator X (Blink) - PASSWORD SETTING MODE (Setting ENTRY PASSWORD for S, X and Z modes.)

PRESET KEYS



To



* Call up Preset data such as PLU Data or Function Data in Reg. Mode.
 * Enter Alphabetic data in Program Mode.

Note: The following Preset Keys are used in entering Alphabetic (Pole Type).



Move the cursor.
 Change the entry to Right.



Move the cursor.
 Change the entry to Left.



Code type entered.



Insert Data.



Switch Cap / Lower case.



Change Font size.



Delete the Data.

2.3 Panel Layout



Bench Type



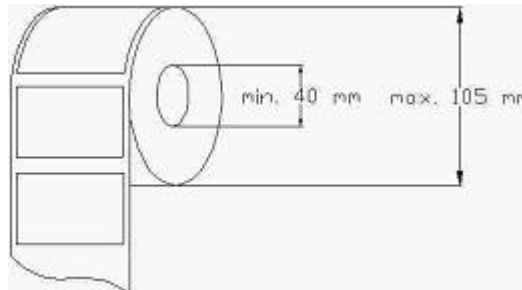
Pole Type And Hanging Type

There are fifteen different indicators on Display Panel as shown below.

1. **→0←** : Lights when scale is stable at the zero point
2. **NET** : Lights when tare subtraction is performed.
3. **P** : Lights when PRE-PACK Mode is selected.
4. **M** : Lights when MANUAL Mode is selected.
5. **AM** : Lights when the amount is displayed.
6. **CH** : Lights when the amount of change is being displayed.

7. **PE** : Lights when label or receipt paper ends.
8. **R** : Lights when REGISTRATION Mode is selected.
9. **X** : Lights when CHECK Mode is selected.
10. **S** : Light when PROGRAM Mode is selected.
11. **Z** : Lights when TOTAL Mode is selected.
12. **A** : Lights when Sales Data is in Memory for CLERK 9995.
13. **B** : Lights when Sales Data is in Memory for CLERK 9996.
14. **C** : Lights when Sales Data is in Memory for CLERK 9997.
15. **D** : Lights when Sales Data is in Memory for CLERK 9998.

2.4 Label Type



Note: Labels must be winding outwards (on top of the backing paper) and not inwards (under the backing paper) within the core (see diagram above).

If labels are wound wrongly, printing problem may result. We do not recommend the use of varnish labels.

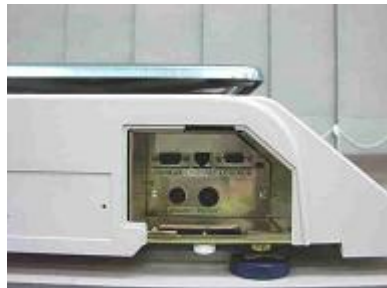
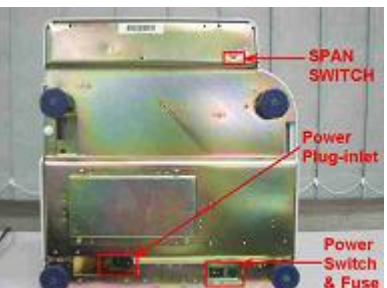
The table shown below is the standard label size of SM 300:

Label Type	Dimension	Pcs / Roll
T1	28 X 60	1400
T2	31 X 60	1300
T3	34 X 60	1200
T4 / T10	40 X 60	1000
T5 / T11	43 X 60	960
T6	46 X 60	900
T7 / T12	49 X 60	840
T8	55 X 60	750
T9	37 X 60	1100
U1	40 X 62	650
U2	120 X 40	350
U3	43 X 60	950
U4 / U7	55 X 60	750
U5 / U8	95 X 60	440
U6	120 X 60	350
S	28 X 60	1400
A / B	46 X 40	900
C	62.5 X 40	670
F1 - F8 (Free format)	Standard: 120(max) X 60(max) U1 and CA: 240(max) X 60(max)	

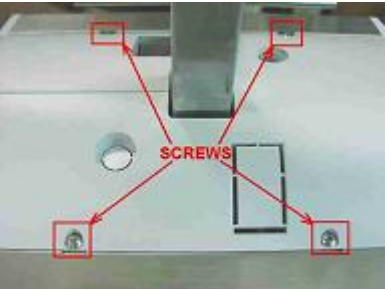


REMARKS:

- 1) Dimension is in L(ength) X W(idth) and in unit of millimeter.
- 2) U2 to U8 is use by U1 and CA only.
- 3) F1 to F8 is free format label to design own label. Please note the maximum size.

2.5 Interface Ports Location**2.5.1 For Pole, Bench, Elevated, Self-service.**

		
2 X LCU/AUX 1 X Ethernet 1 X RS232 1 X Cash drawer	To turn the span switch on / off by using pin.	

2.5.2 For Hanging

		
1. Loosen 4 screws on the top of the SM 300 Hanging Scale.	2. Remove 2 cover on top, the interface is at the left hand side.	The location of the SPAN switch is at the backside of the main board, which is pointed. (SM300 Hanging)

3. SETUP

3.1 Scale Assembly

3.1.1 Set up



Step 1:
Remove top cushion pad
with accessories from
carton box.



Step 2:
Retrieve SM-300 scale kit
from carton box.

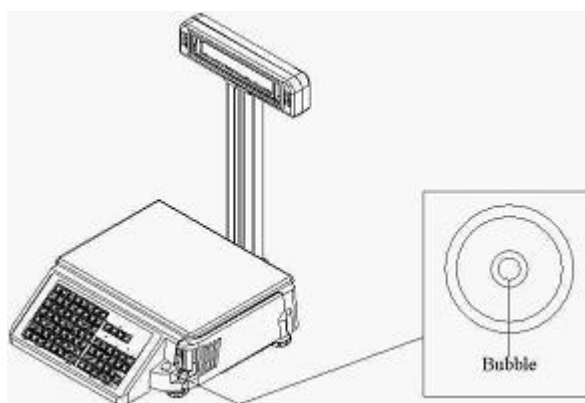


Step 3:
Place the cover as shown
at above.



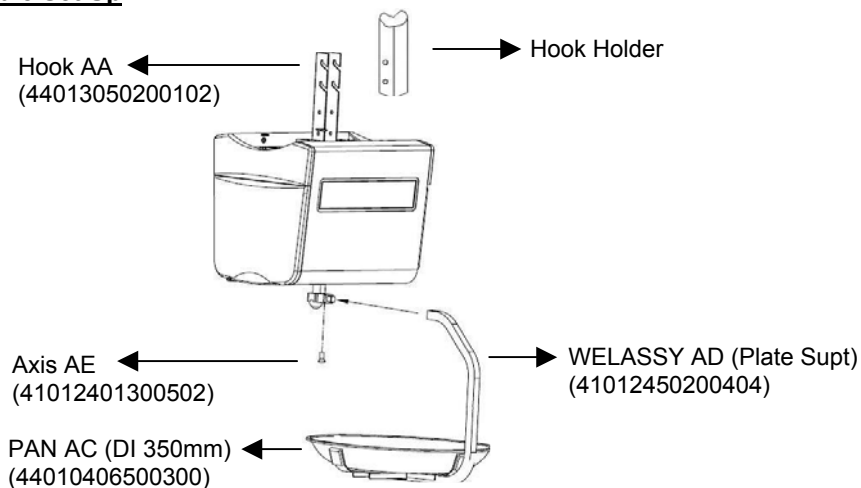
Step 4:
Connect cable (Display
and keyboard) and mount
Elevated/Pole display [For
SM-300P, EV]

3.1.1 Level Adjustment



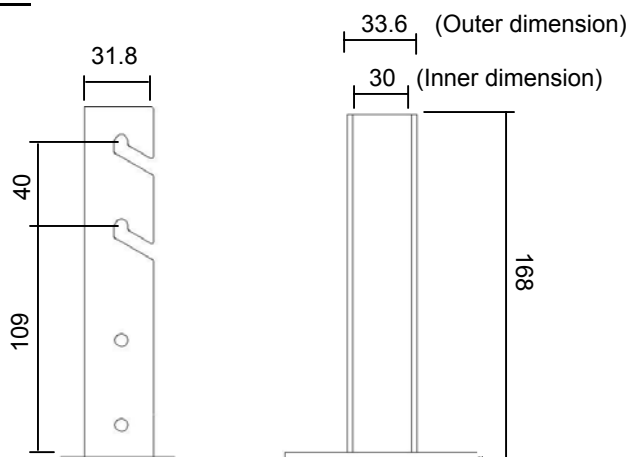
Place the scale on the flat surface and adjust the four legs until the bubble on the level is in the center as shown above.

3.1.3 Hanging Type Scale Set Up

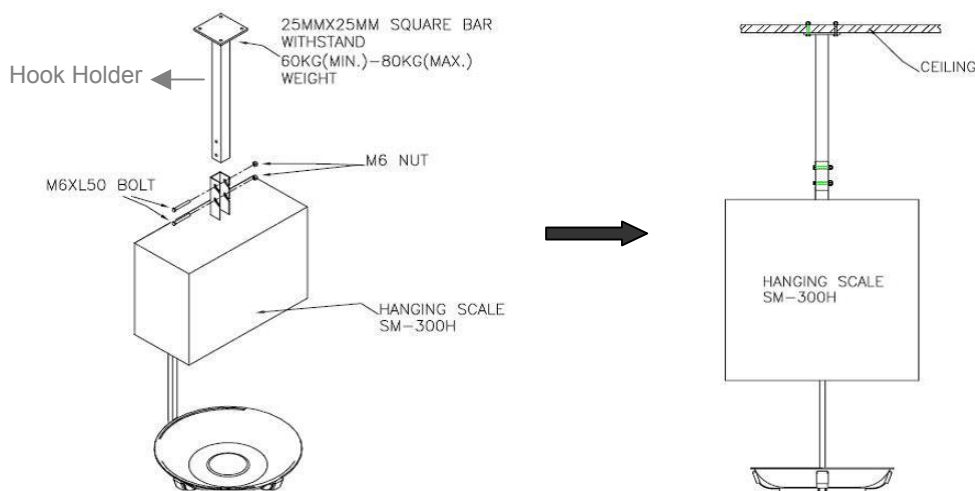


SM 300H is provided with Hook AA. This is to facilitate hanging support to a Hook Holder (To be customized at customer's side). Please refer to diagrams at the next page for the dimension of Hook AA and the suggested Hook Holder.

Hook AA



Hook Holder (Suggested design and dimension)



3.2 Software Setting

3.2.1 Memory Initialization

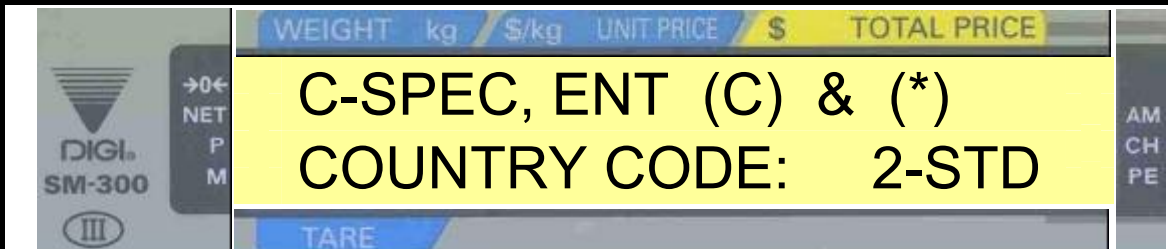
There are two methods of memory initialization

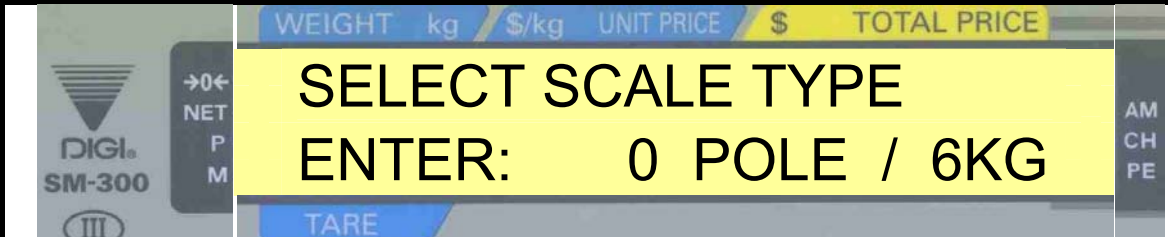
3.2.1.1 Default Country Specification 1






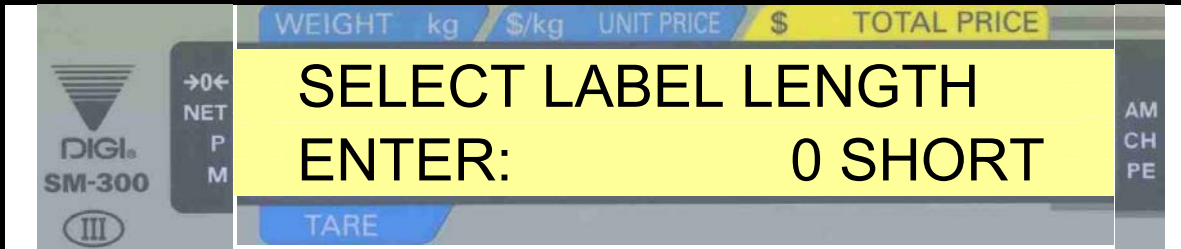
Default Customer Specification (Re-zero 141) and Weight & Measure Specification (Re-zero 142) setting of individual country.






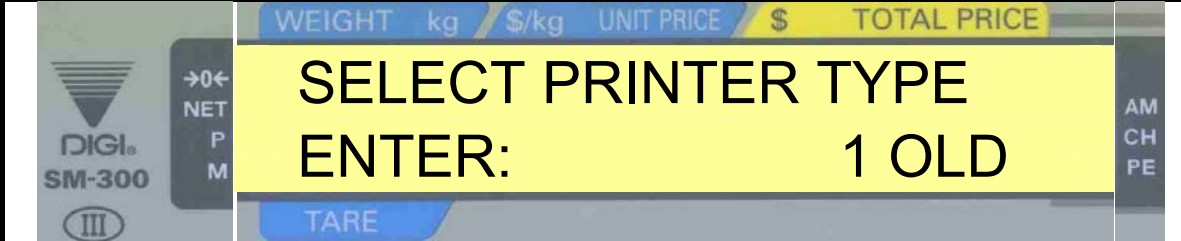
(Please turn on the span switch before proceed this process.)




(Please off the scale, press the following key and on the scale when process the following)

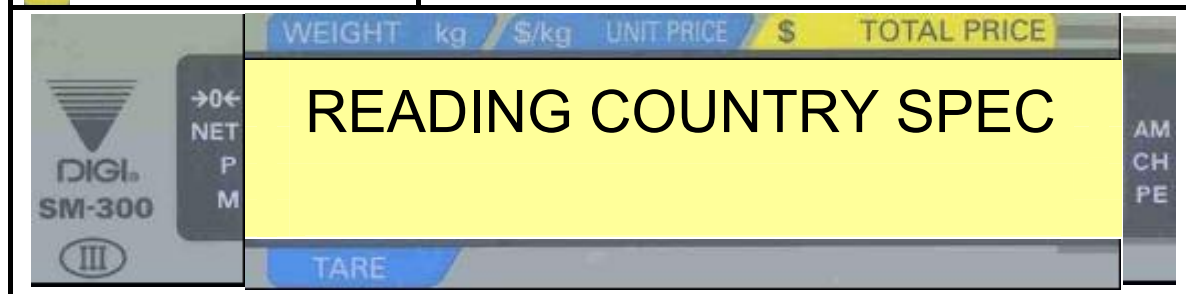
KEY TO PRESS	OPERATION
→0← + AUTO	Select country SPEC then default Customer Specification and Weight & Measure Specification setting.
	

KEY TO PRESS	OPERATION
2 *	Refer to the Section 3.2.1.3 for country list Reading SPEC for the standard country.
	

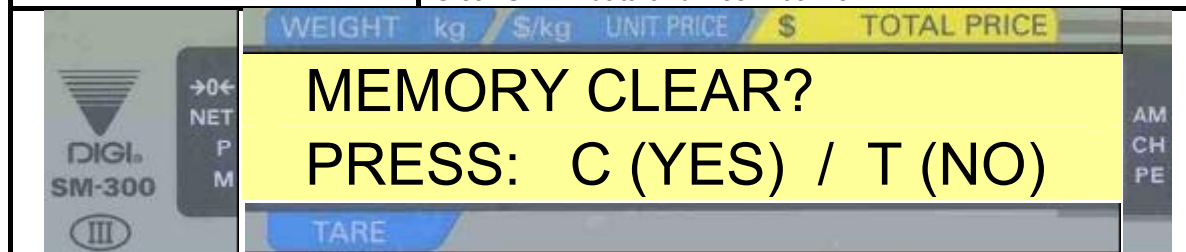
KEY TO PRESS	OPERATION
 To  To choose scale type	Select scale type: 0: Pole 6 Kg 1: Pole 15 Kg 2: Pole 30 Kg 3: Pole 30 Lb 4: Bench 6 Kg 5: Bench 15 Kg 6: Bench 30 Kg 7: Bench 30 Lb 8. Printer (BP 80 / 90)
OR	
 +  To choose scale type	
OR	
 To set the scale and the capacity type.	
	

KEY TO PRESS	OPERATION
 To  To choose label length	Select label length: 0: Short – Label length up to maximum 120mm 1: Long – Label length up to maximum 240mm
OR	
 +  To choose label length	
OR	
 To set the label length.	
	


KEY TO PRESS	OPERATION
 To  To choose printer type	Select Printer Type: 0: New Printer Kit 1: Old Printer Kit
OR	
 To set the printer type.	

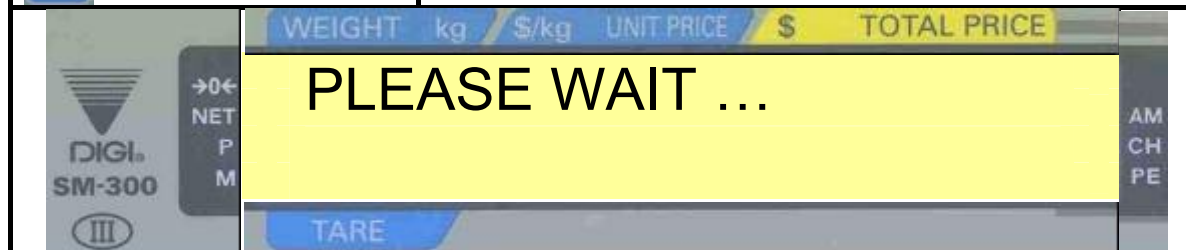


KEY TO PRESS	OPERATION
	Clear SRAM data and files initialize.




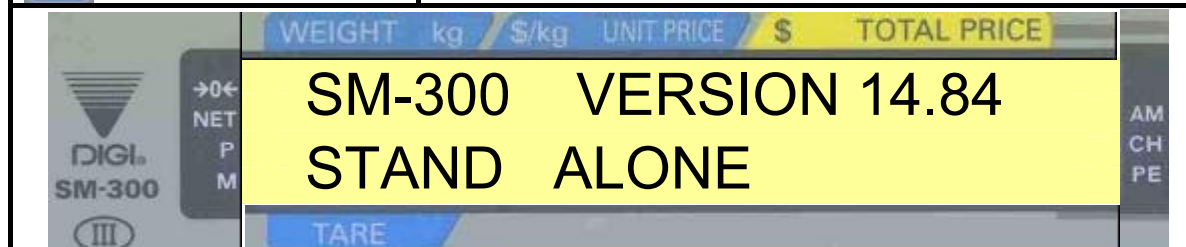
The image shows the DIGI SM-300 display screen. The top status bar displays 'WEIGHT kg / \$/kg UNIT PRICE \$ TOTAL PRICE'. The main display area shows 'MEMORY CLEAR?' and 'PRESS: C (YES) / T (NO)' in large black letters on a yellow background. The left side of the screen shows the 'DIGI SM-300' logo and a vertical menu with '→0←', 'NET', 'P', and 'M'. The right side shows 'AM', 'CH', and 'PE'. At the bottom, there is a 'TARE' button.

KEY TO PRESS	OPERATION
 If YES	Process of initialize. Then go to segment check.



The image shows the DIGI SM-300 display screen. The top status bar displays 'WEIGHT kg / \$/kg UNIT PRICE \$ TOTAL PRICE'. The main display area shows 'PLEASE WAIT ...' in large black letters on a yellow background. The left side of the screen shows the 'DIGI SM-300' logo and a vertical menu with '→0←', 'NET', 'P', and 'M'. The right side shows 'AM', 'CH', and 'PE'. At the bottom, there is a 'TARE' button.

KEY TO PRESS	OPERATION
 If NOT	Go to segment check.



The image shows the DIGI SM-300 display screen. The top status bar displays 'WEIGHT kg / \$/kg UNIT PRICE \$ TOTAL PRICE'. The main display area shows 'SM-300 VERSION 14.84' and 'STAND ALONE' in large black letters on a yellow background. The left side of the screen shows the 'DIGI SM-300' logo and a vertical menu with '→0←', 'NET', 'P', and 'M'. The right side shows 'AM', 'CH', and 'PE'. At the bottom, there is a 'TARE' button.






KEY TO PRESS	OPERATION
	Clear SRAM data and files initialize.
<p>The image shows the DIGI SM-300 scale display. The top bar shows 'WEIGHT kg / \$/kg UNIT PRICE \$ TOTAL PRICE'. The main display area is yellow and shows 'CHANGE SPAN SWITCH'. The left side has a 'DIGI SM-300' logo and a 'TARE' button. The right side has 'AM CH PE' indicators.</p>	

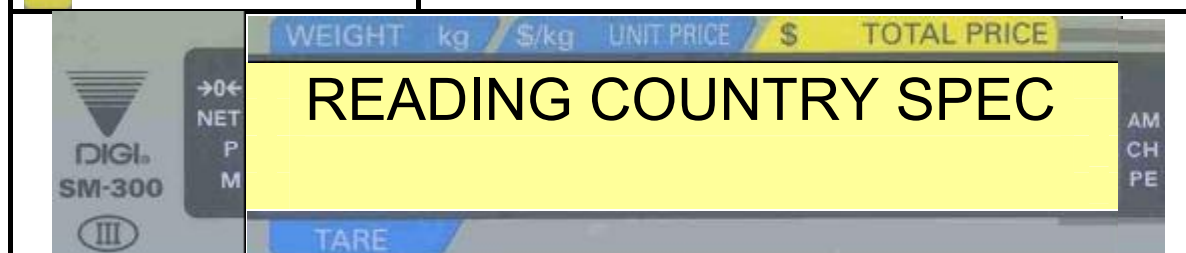
3.2.1.2 Default Country Specification 2

Default Customer Specification (Re-zero 141) setting of individual country only.
(Please off the scale, press the following key and on the scale when process the following)

KEY TO PRESS	OPERATION
→0← + 9 3	Select country SPEC then default Customer Specification setting.
<p>The image shows the DIGI SM-300 scale display. The top bar shows 'WEIGHT kg / \$/kg UNIT PRICE \$ TOTAL PRICE'. The main display area is yellow and shows 'C-SPEC, ENT (C) & (*) COUNTRY CODE: 2-STD'. The left side has a 'DIGI SM-300' logo and a 'TARE' button. The right side has 'AM CH PE' indicators.</p>	


KEY TO PRESS	OPERATION
2 *	Refer to the Section 3.2.1.3 for country list Reading SPEC for the standard country.
<p>The image shows the DIGI SM-300 scale display. The top bar shows 'WEIGHT kg / \$/kg UNIT PRICE \$ TOTAL PRICE'. The main display area is yellow and shows 'SELECT LABEL LENGTH ENTER: 0 SHORT'. The left side has a 'DIGI SM-300' logo and a 'TARE' button. The right side has 'AM CH PE' indicators.</p>	

KEY TO PRESS	OPERATION
 To  To choose label length	Select label length: 0: Short – Label length up to maximum 120mm 1: Long – Label length up to maximum 240mm
OR	
 +  To choose label length	
OR	
 To set the label length.	




KEY TO PRESS	OPERATION
	Clear SRAM data and files initialize.

 A screenshot of the DIGI SM-300 display. The top status bar shows 'WEIGHT kg / \$/kg UNIT PRICE \$ TOTAL PRICE'. The main display area is yellow and shows 'MEMORY CLEAR?' and 'PRESS: C (YES) / T (NO)'. The left side of the screen shows the 'DIGI SM-300' logo and a 'TARE' button. The right side shows 'AM CH PE' indicators.

KEY TO PRESS	OPERATION
 If YES	Process of initialize. Then go to segment check.

 A screenshot of the DIGI SM-300 display. The top status bar shows 'WEIGHT kg / \$/kg UNIT PRICE \$ TOTAL PRICE'. The main display area is yellow and shows 'PLEASE WAIT ...'. The left side of the screen shows the 'DIGI SM-300' logo and a 'TARE' button. The right side shows 'AM CH PE' indicators.

KEY TO PRESS	OPERATION
 If NOT	Go to segment check.

 A screenshot of the DIGI SM-300 display. The top status bar shows 'WEIGHT kg / \$/kg UNIT PRICE \$ TOTAL PRICE'. The main display area is yellow and shows 'SM-300 VERSION 14.84' and 'STAND ALONE'. The left side of the screen shows the 'DIGI SM-300' logo and a 'TARE' button. The right side shows 'AM CH PE' indicators.





3.2.1.3 Country List

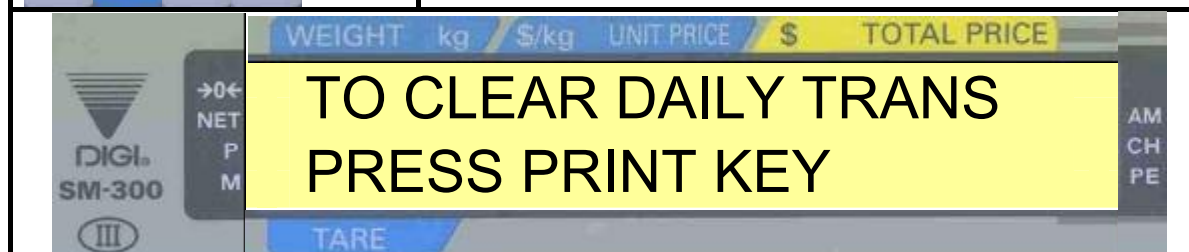
No.	Country Code	Country
0	AA	Japan
1	U1	U.S.A.
2	STD	Standard
3	CN	China
4	HK	Hong Kong
5	TW	Taiwan
6	EX	Export
7	KE	Korea
8	AR	Australia and New Zealand
9	SF	South Africa
10	CS	Cyprus
11	GC	Greece
12	TU	Turkey
13	CV	Czech Republic
14	HG	Hungary
15	PL	Poland
16	UR	Russia
17	AS	Austria
18	DM	Denmark
19	FL	Finland
20	NW	Norway
21	SD	Sweden
22	PG	Portugal
23	UK	United Kingdom
24	IL	Ireland (Kg)
25	ILL	Ireland (Lb)
26	CA	Canada (Kg)
27	CAL	Canada (Lb)
28	AG	Argentina
29	MX	Mexico
30	BZ	Brazil
31	CL	Chile
32	EA	Egypt
33	JD	Jordan
34	LN	Lebanon
35	IN	Iran
36	CR	Canary Islands







No.	Country Code	Country
37	TL	Thailand
38	EC	European Community
39	NL	Netherlands
40	BG	Belgium
41	SA	Saudi Arabia
42	IC	Iceland
43	IE	Indonesia
44	CB	Cuba
45	KY	Kenya
46	IR	Israel
47	VY	Slovenia
48	MS	Malaysia
49	SN	Spain
50	VZ	Venezuela
51	CO	Croatia
52	MA	Macedonian
53	FR	France
54	WG	Germany
55	BL	Bulgaria
56	BW	Botswana
57	CP	Comores
58	LS	Lesotho
59	MU	Mauritius
60	MW	Malawi
61	MZ	Mozambique
62	NM	Namibia
63	RE	Reunion
64	SH	Seychelles
65	SW	Swaziland
66	WZ	Zimbabwe
67	ZM	Zambia
68	AE	U.A.E.
69	TT	Trinidad & Torago
70	UD	Uganda
71	LV	Latvia
72	SK	Slovakia

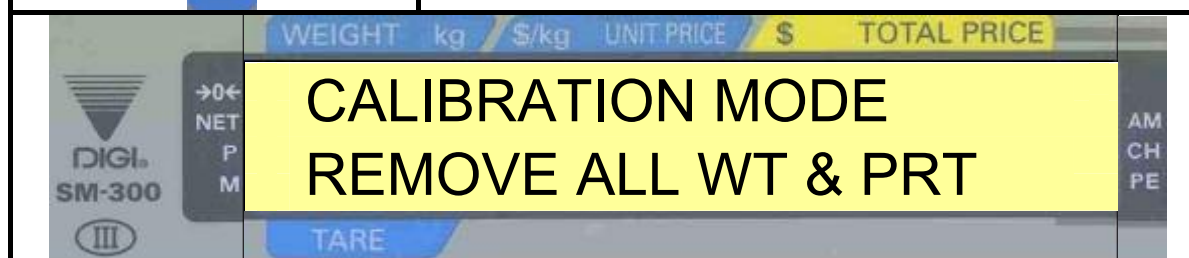
3.2.2 Span Adjustment


The span adjustment is to let the scale be accurate in weighing.
(Please turn on the SPAN SWITCH after go to Z mode when using this process.)

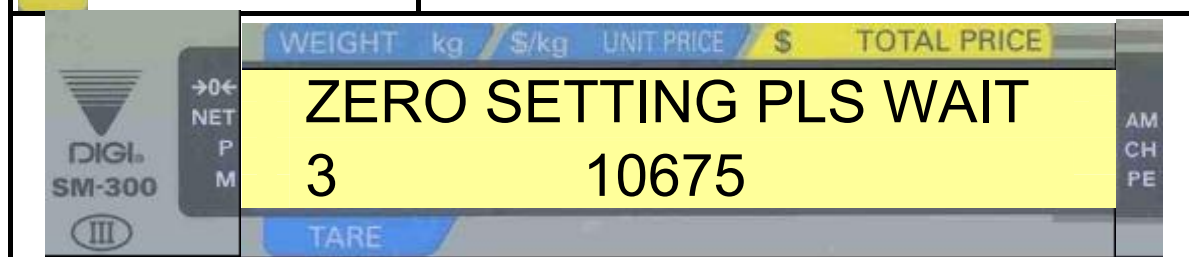
KEY TO PRESS	OPERATION
   	Go to Z mode and turn on the Span Switch.



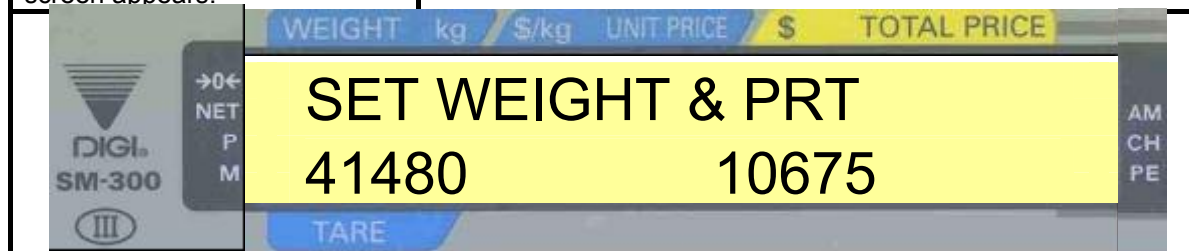
KEY TO PRESS	OPERATION
     	At calibration mode.


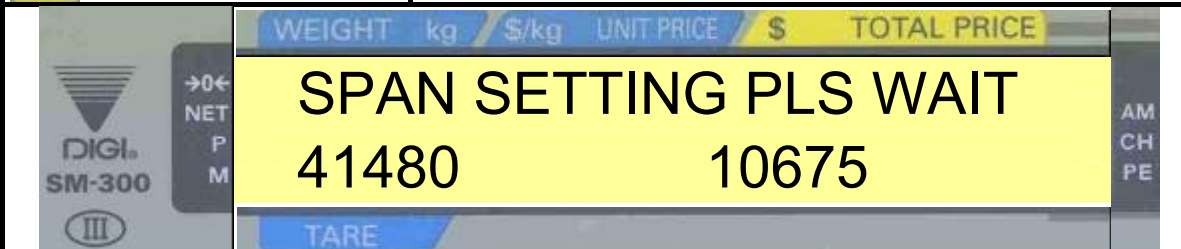


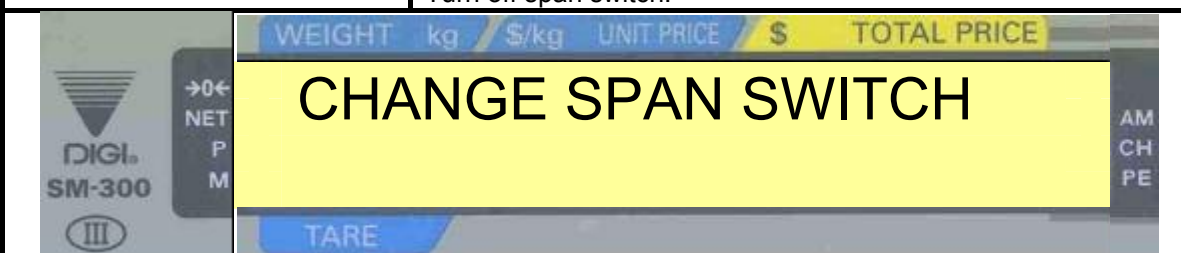
KEY TO PRESS	OPERATION
	To calibrate zero point. Please make sure that nothing is on the platter. This will take a moment.



KEY TO PRESS	OPERATION
Place the capacity weight on the scale after the following screen appears.	Place the capacity weight according to the scale on the platter. E.g. for a 6 Kg scale, put a 6 Kg capacity weight on the platter.



KEY TO PRESS	OPERATION
	To calibrate the full weight. This will take a moment.
	

KEY TO PRESS	OPERATION
	Turn off span switch.
	

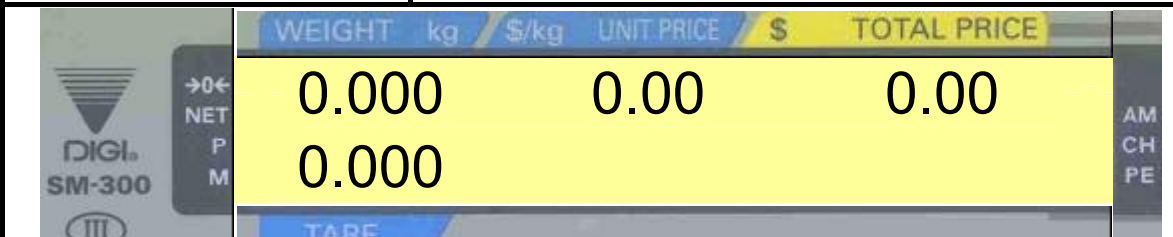
REMARK:

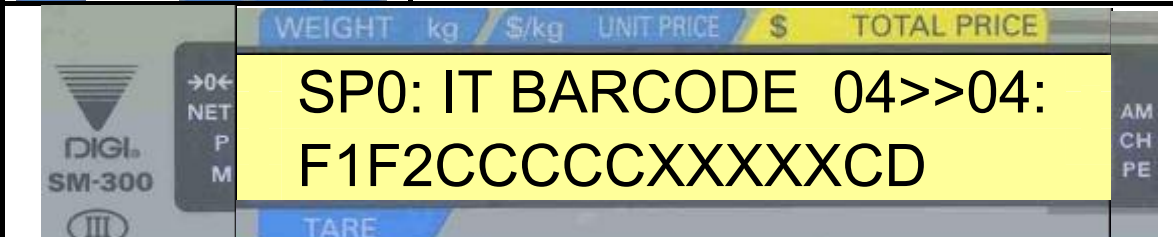
1. Once the span switch is turned off, it will go to R mode automatically.
2. Reset the scale.

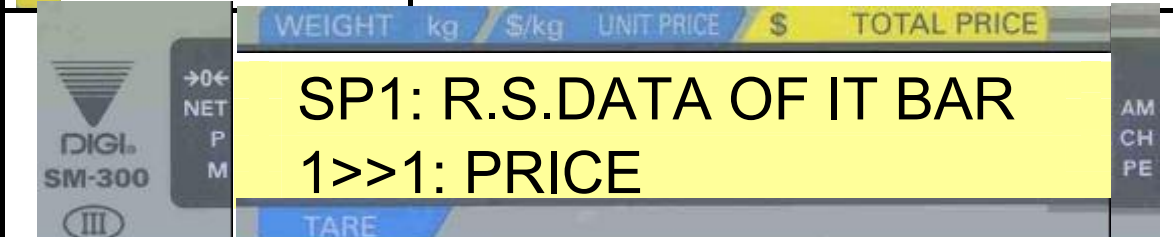
3.2.3 Specification Setting

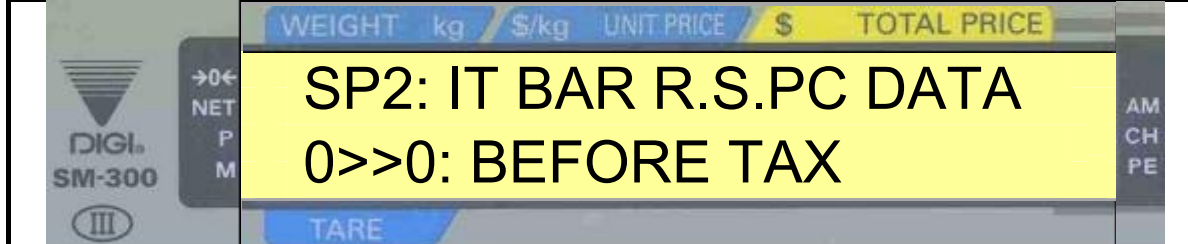
3.2.3.1 Customer Specification (Re-zero 141)

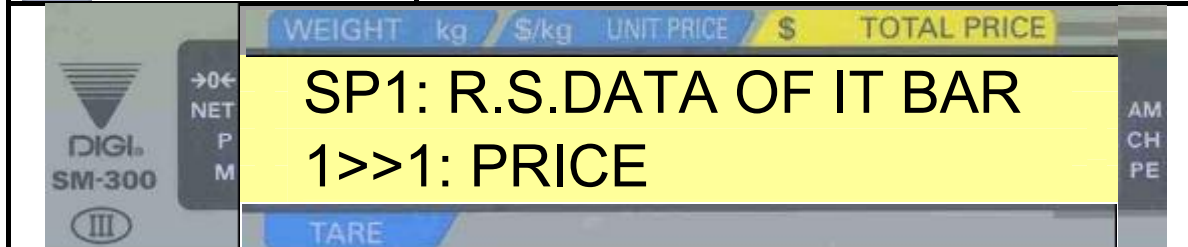
To change the setting of the Customer SPEC if there is some SPEC need to alter.

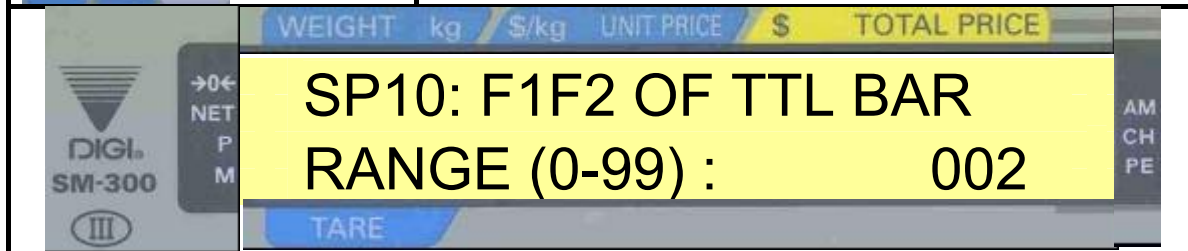
KEY TO PRESS	OPERATION
	At R mode.
	

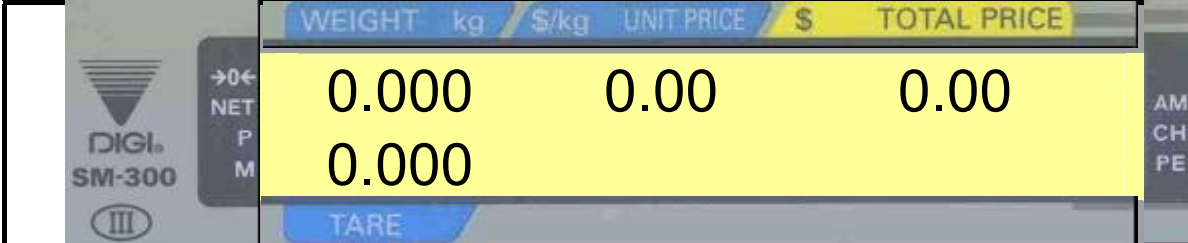
KEY TO PRESS	OPERATION
→0← + 1 4 1	At the Customer SPEC setting at SPEC 0.
	

KEY TO PRESS	OPERATION
□ To 2 □	Select data.
OR	
CLERK + DPY DP	
OR	Save data and increase SPEC No.
*	
	

KEY TO PRESS	OPERATION
+A	Increase the SPEC number without saving data of the previous SPEC number.
	

KEY TO PRESS	OPERATION
—	Decrease the SPEC number without saving data of the previous SPEC number.
	






KEY TO PRESS	OPERATION
1 □ ×	To jump to desire SPEC number.
	






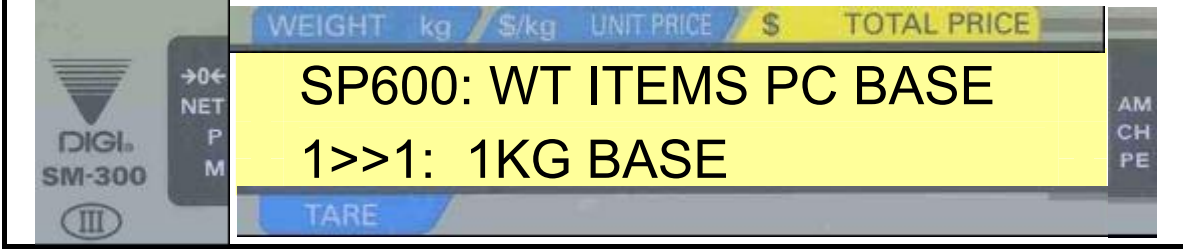
KEY TO PRESS	OPERATION
PLU To save.	Save SPEC setting and exit to R mode.
OR	
→T← No save.	Do not save SPEC setting and exit to R mode.
	







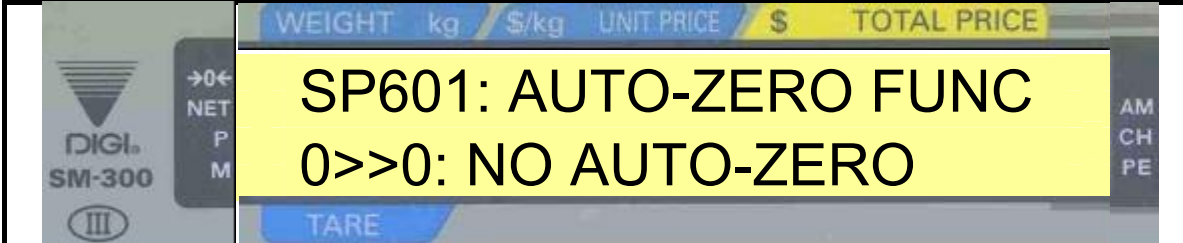
REMARK: Please restart the scale every time after changing the SPEC.

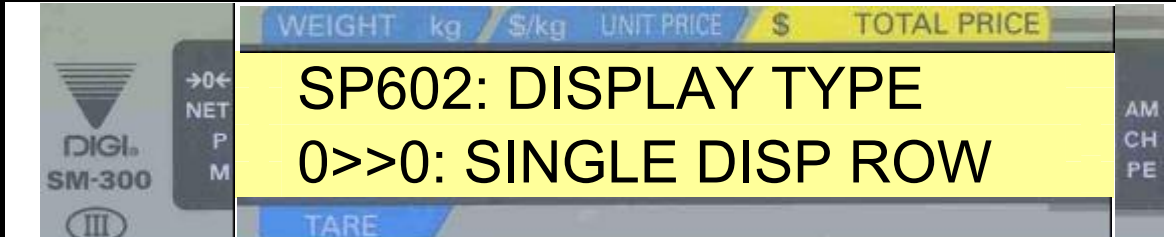
3.2.3.2 Weight And Measurement Specification (Re-zero 142)

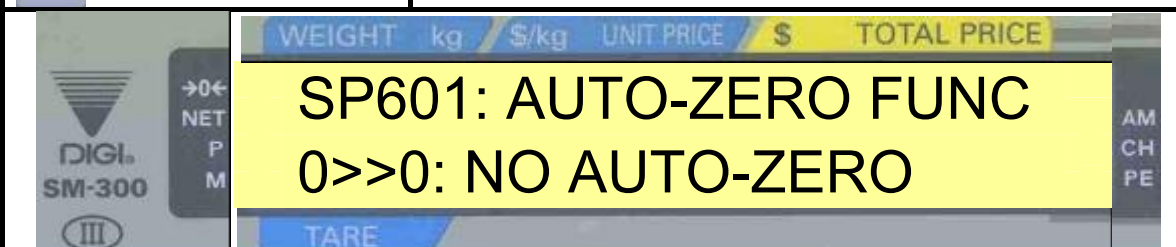
To change the setting of the Weight & Measurement SPEC if there is some SPEC need to alter.
(Please turn on the **SPAN SWITCH** when using this process)

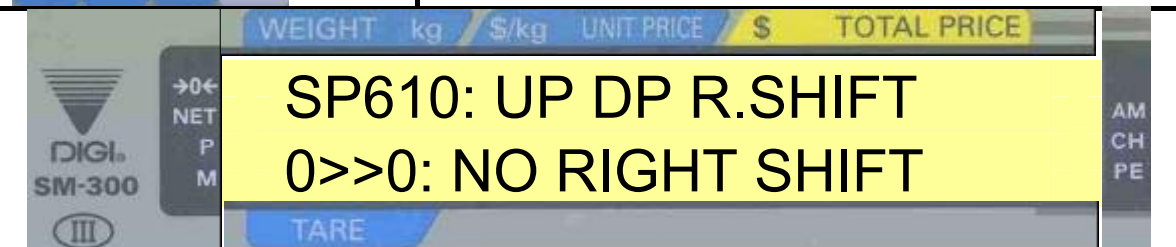
KEY TO PRESS	OPERATION
   	Go to Z mode and turn on the Span Switch.
	

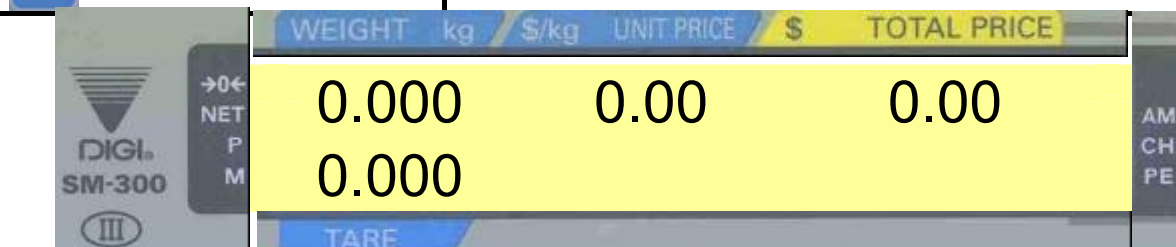
KEY TO PRESS	OPERATION
    	At the W & M SPEC setting at SPEC 600.
	

KEY TO PRESS	OPERATION
 To 	Select data.
OR	
  	
OR	Save data and increase SPEC No.
	
	

KEY TO PRESS	OPERATION
+A	Increase the SPEC number without saving data of the previous SPEC number.
	

KEY TO PRESS	OPERATION
-	Decrease the SPEC number without saving data of the previous SPEC number.
	

KEY TO PRESS	OPERATION
6 1 0 X	To jump to desire SPEC number.
	

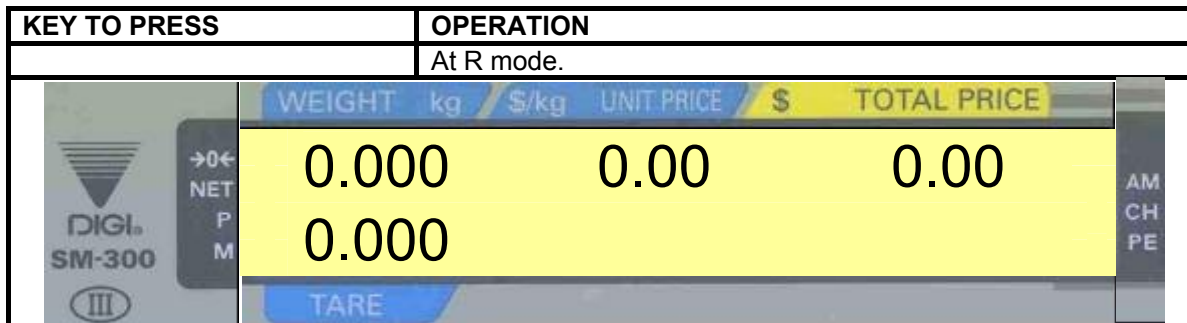
KEY TO PRESS	OPERATION
PLU	To save.
Save SPEC setting and exit to R mode.	
OR	
→T←	No save.
Do not save SPEC setting and exit to R mode.	
	


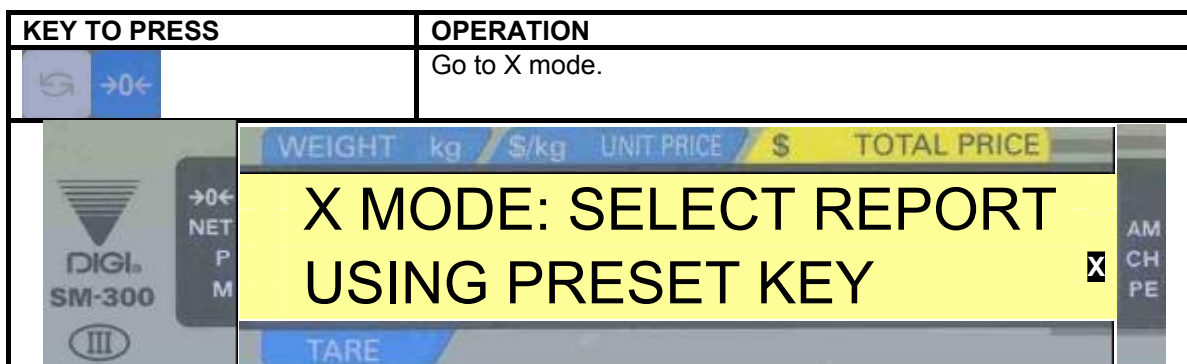
REMARK: Please restart the scale every time after changing the SPEC.


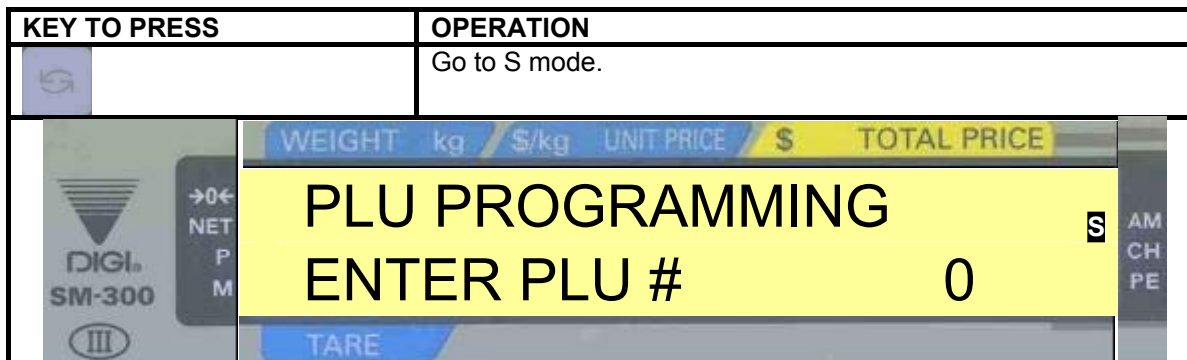
4. MAINTENANCE


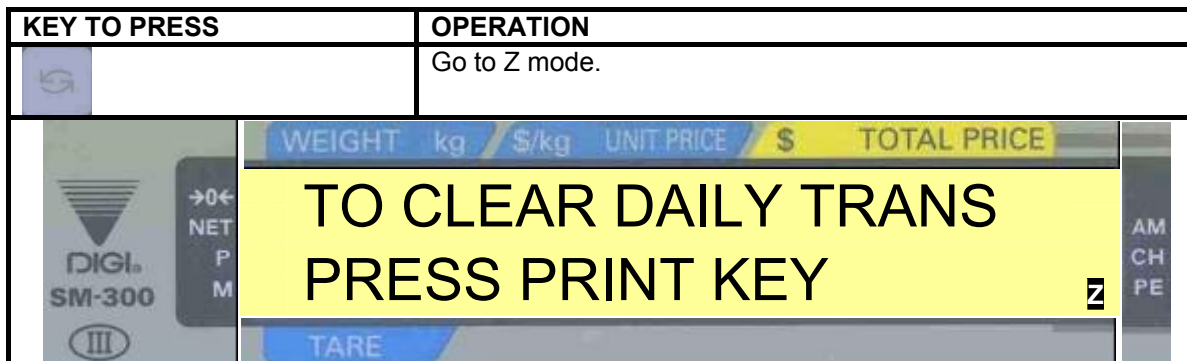
4.1 Diagnostic


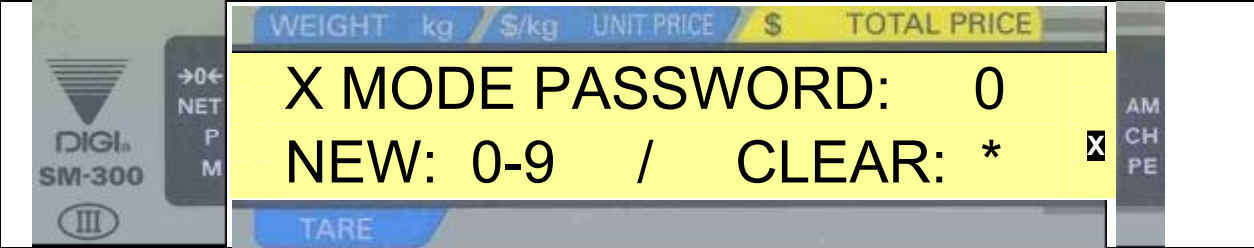
4.1.1 Changing Mode


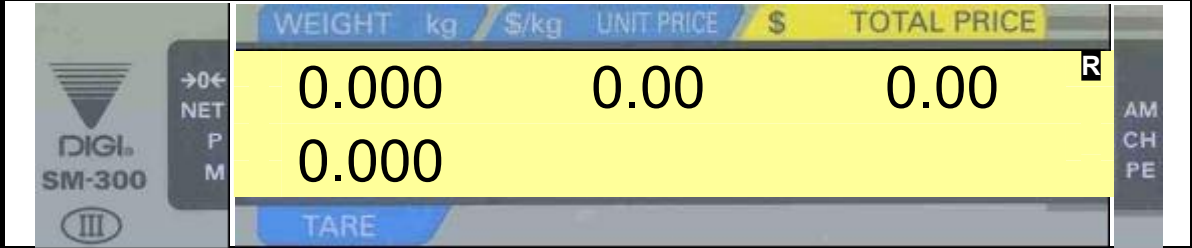
KEY TO PRESS	OPERATION
	At R mode.
	

KEY TO PRESS	OPERATION
 →0←	Go to X mode.
	

KEY TO PRESS	OPERATION
	Go to S mode.
	

KEY TO PRESS	OPERATION
	Go to Z mode.
	

KEY TO PRESS	OPERATION
	Go to PASSWORD mode. The X on the screen will display blinking
	






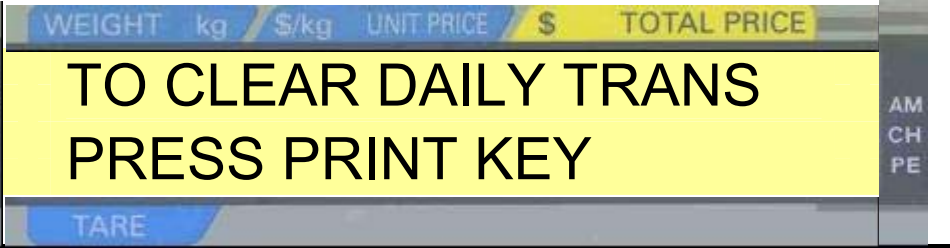






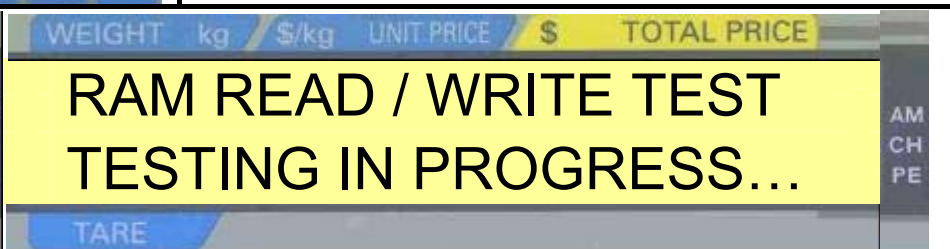

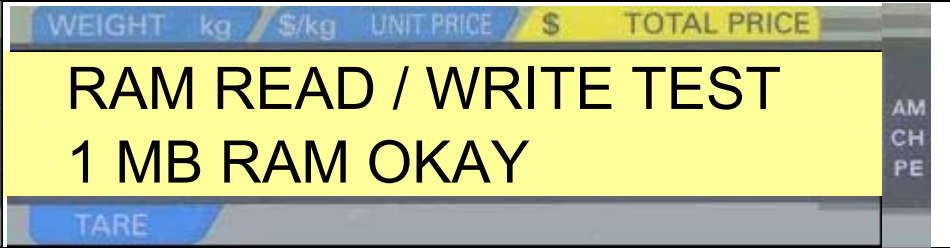

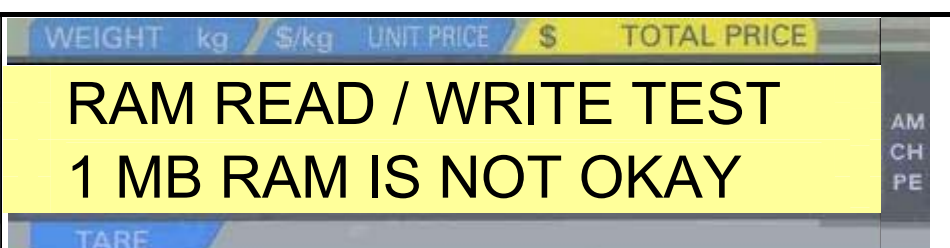
KEY TO PRESS	OPERATION
	Back to R mode.
	

To switch between R, X, S, Z and Password mode.


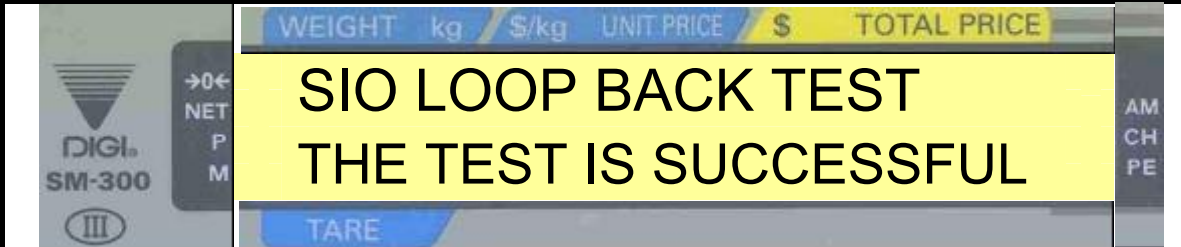
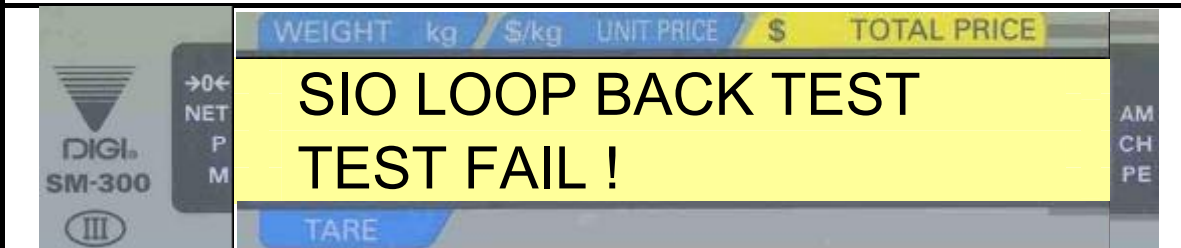
** The "►" Or "◄" mark on the X, S, Z and R mean the indicator light is on. When in Password mode, the indicator light will be blinking.

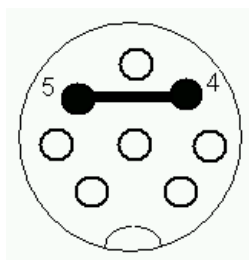
4.1.2 RAM & Communication Port Testing

4.1.2.1 RAM Test

KEY TO PRESS	OPERATION
   	Go to Z mode.
	
KEY TO PRESS	OPERATION
    	Go to hardware testing mode. The first test is the RAM test
	
KEY TO PRESS	OPERATION
	It will show the message below after testing the RAM.
	
OR ELSE	
	


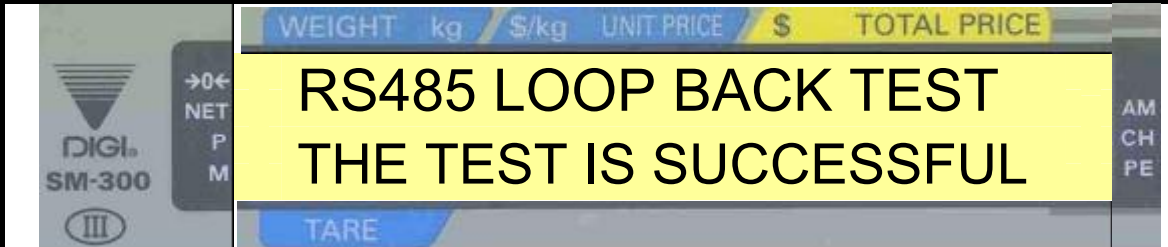
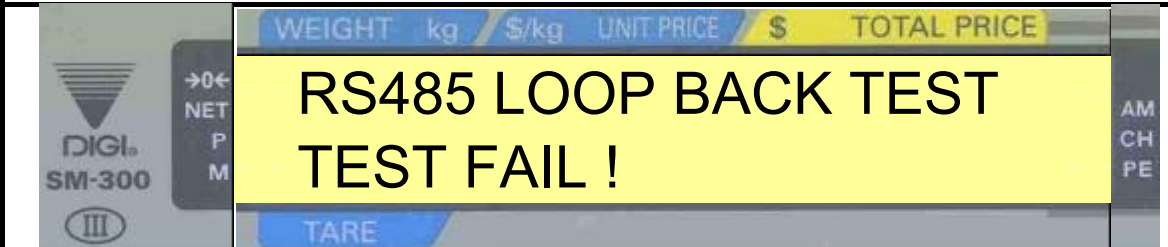
4.1.2.2 SIO Loop Back Test

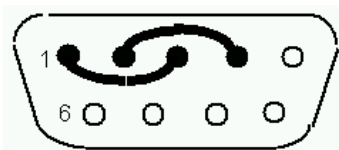
KEY TO PRESS	OPERATION
	Testing the RS232C port. Please plug in the test connector on the RS232Cport before proceed (<i>The test connector is show at below</i>). If the port is okay, it will display the message below.
	
OR ELSE	
	



TEST CONNECTOR FOR SIO PORT
Connect pin 4 and 5

4.1.2.3 RS-485 Loop Back Test


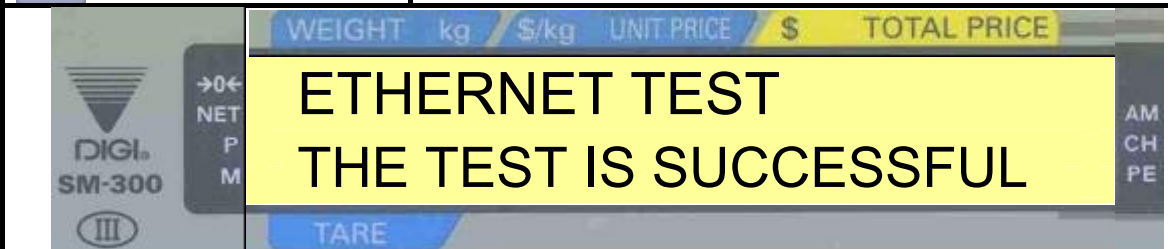
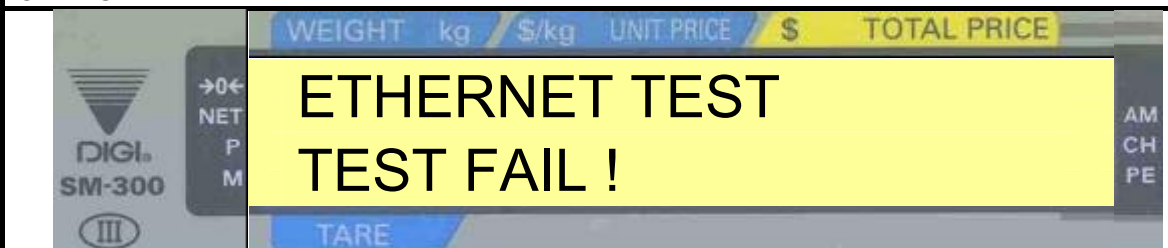
KEY TO PRESS	OPERATION
	Testing the 4-Line port. Please plug in the test connector on the 4-Line port before proceed (<i>The test connector is show at below</i>). If the port is okay, it will display the message below.
	
OR ELSE	
	




TEST CONNECTOR FOR 4 LINE RS485 PORT

Connect pin 1 with pin 3
Connect pin 2 with pin 4

4.1.2.4 Ethernet Test

KEY TO PRESS	OPERATION
	Testing the Ethernet port. If the port is okay, it will display the message below.
	
OR ELSE	
	

4.1.2.5 ROM Checksum Test

KEY TO PRESS	OPERATION
	ROM checksum for firm work. (Different of checksum regarding to different software version)

The display shows the following information:


- Top bar: WEIGHT kg / \$/kg UNIT PRICE \$ TOTAL PRICE
- Left side: DIGI SM-300, III, and a vertical menu with →0←, NET, P, M.
- Center: ROM TEST TESTING IN PROGRESS...
- Right side: AM, CH, PE.
- Bottom bar: TARE

After few seconds ...

The display shows the following information:


- Top bar: WEIGHT kg / \$/kg UNIT PRICE \$ TOTAL PRICE
- Left side: DIGI SM-300, III, and a vertical menu with →0←, NET, P, M.
- Center: 0 0 3076E3 TESTING IN PROGRESS...
- Right side: AM, CH, PE.
- Bottom bar: TARE

4.1.2.6 Auto Generate PLU


KEY TO PRESS	OPERATION
	Auto generates PLU. Press PRINT key if YES

The display shows the following information:

- Top bar: WEIGHT kg / \$/kg UNIT PRICE \$ TOTAL PRICE
- Left side: DIGI SM-300, III, and a vertical menu with →0←, NET, P, M.
- Center: OVERWRITE EXISTING PLU GENERATE PLU (YES - *) ?
- Right side: AM, CH, PE.
- Bottom bar: TARE


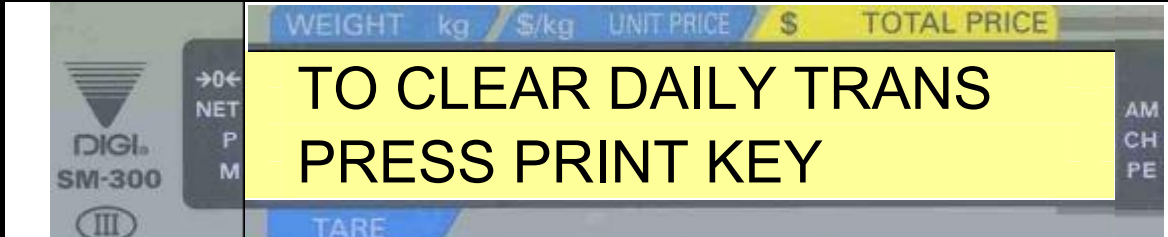
KEY TO PRESS	OPERATION
	Process to RAM Test (Repeat) without generate PLUs.

OR





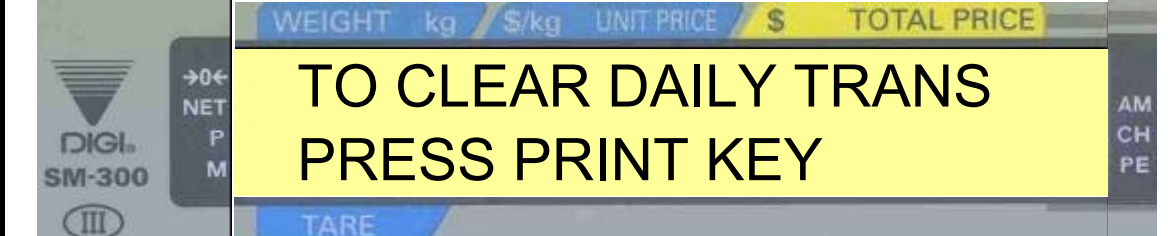
	PLU generating.
---	-----------------






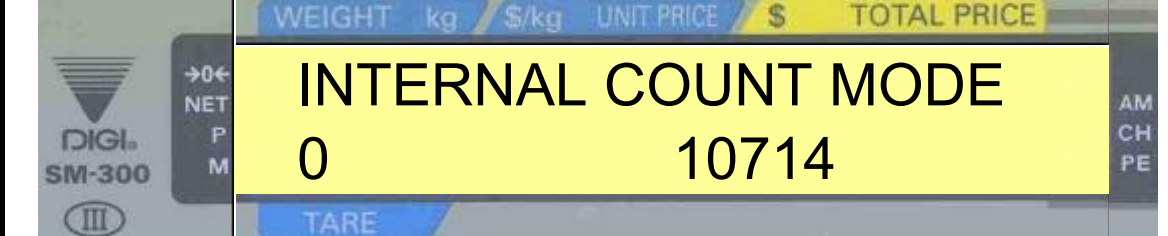
The display shows the following information:


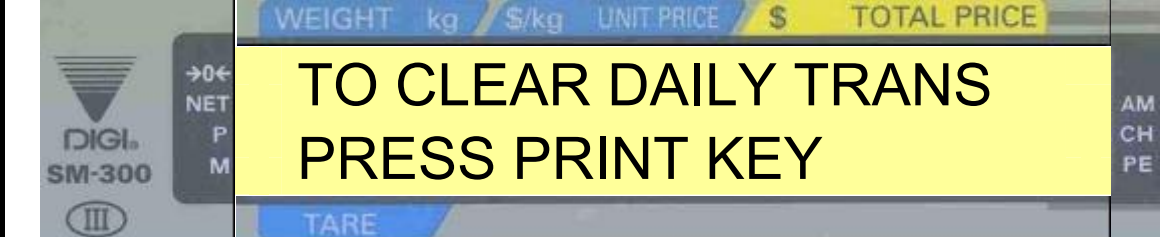
- Top bar: WEIGHT kg / \$/kg UNIT PRICE \$ TOTAL PRICE
- Left side: DIGI SM-300, III, and a vertical menu with →0←, NET, P, M.
- Center: PLU GENERATED: 001679 TESTING IN PROGRESS...
- Right side: AM, CH, PE.
- Bottom bar: TARE

KEY TO PRESS	OPERATION
	Escape to Z mode.
	





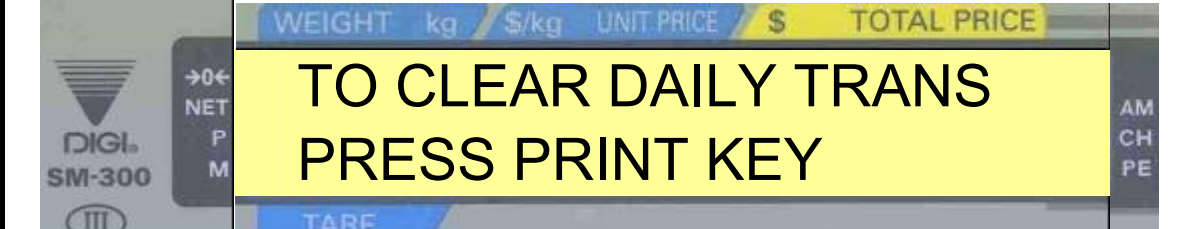
4.1.3 Internal Count






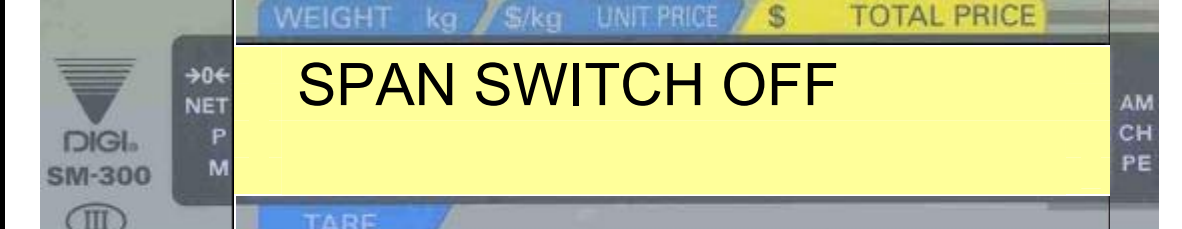
KEY TO PRESS	OPERATION
   	Go to Z mode and turn on the Span Switch.
	

KEY TO PRESS	OPERATION
    	At Internal count mode.
	

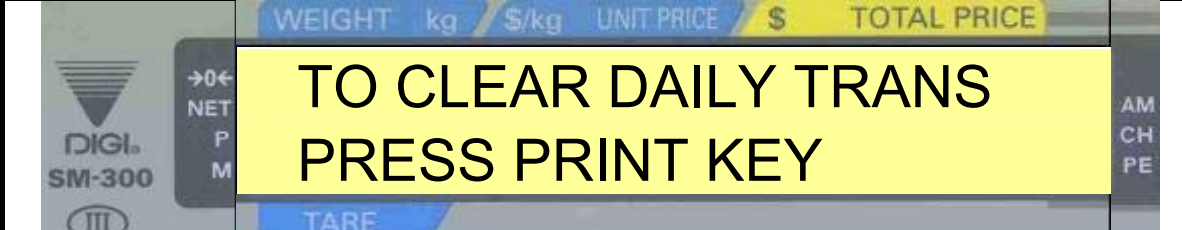
KEY TO PRESS	OPERATION
	Escape to Z mode.
	

4.1.4 Span Switch Status





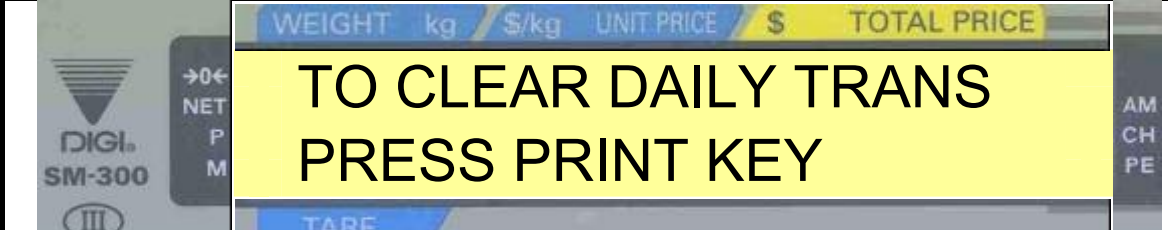
KEY TO PRESS	OPERATION
   	Go to Z mode.
	






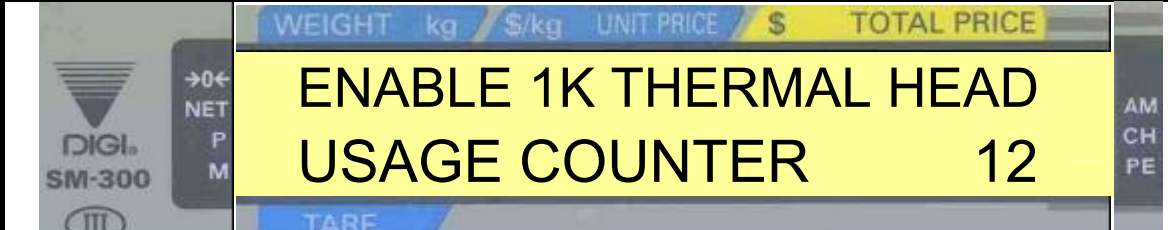
KEY TO PRESS	OPERATION
    	Indicates SPAN Switch status.
	


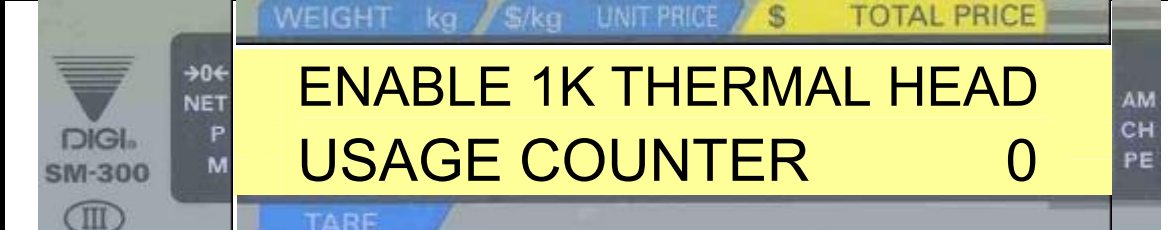
After 1 Second


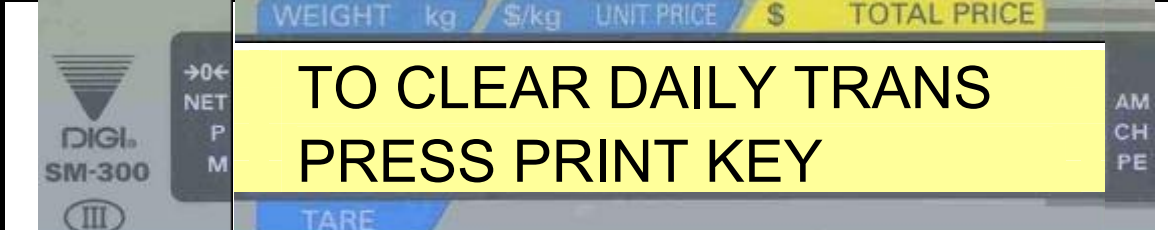
	
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4.1.5 Thermal Head Usage

KEY TO PRESS	OPERATION
   	Go to Z mode.
	

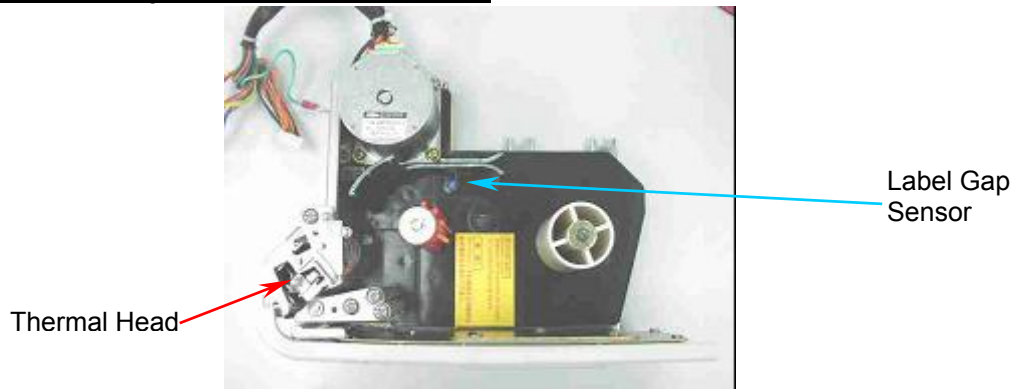
KEY TO PRESS	OPERATION
 +    	Process to Thermal Head Usage mode. The counter will jump with every 1000 printing. Press [C] to clear the counter to 0.
	

KEY TO PRESS	OPERATION
	Counter clear.
	

KEY TO PRESS	OPERATION
	No clear the counter and escape to Z mode.
	

4.2 Adjustment

4.2.1 Location Of Label Gap Sensor And Thermal Head



4.2.2 Label Gap Sensor



Adjust this variable resistor for sensor level sensitivity.

The label sensor is to detect the gap between the labels so as to identify the starting position of the label. If the gap is not detected properly, the scale will issue two or more labels. Also different material of label and back paper will have different sensitivity level; the variable resistor beside the label sensor is to adjust the sensitivity to suitable level.

Gap Sensor Voltage

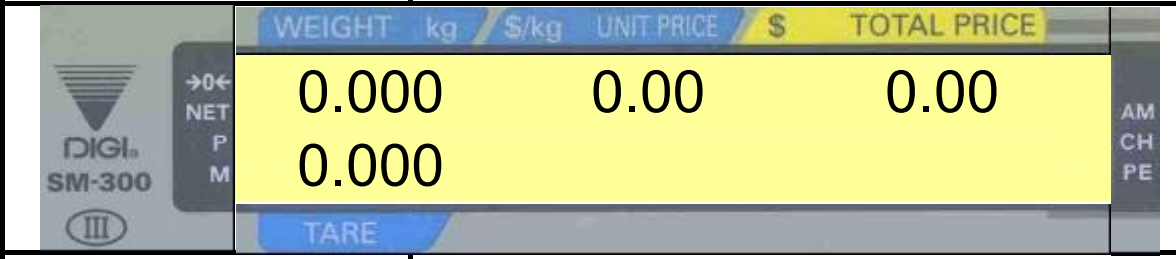
- a) When the sensor detects a gap (back paper), the Gap Sensor Voltage is between 1.0 to 2.5, depending on the material of the back paper.
- b) When the sensor detects a label, the Gap Sensor Voltage is between 3.0 to 5.0, depending on the material of the back paper.

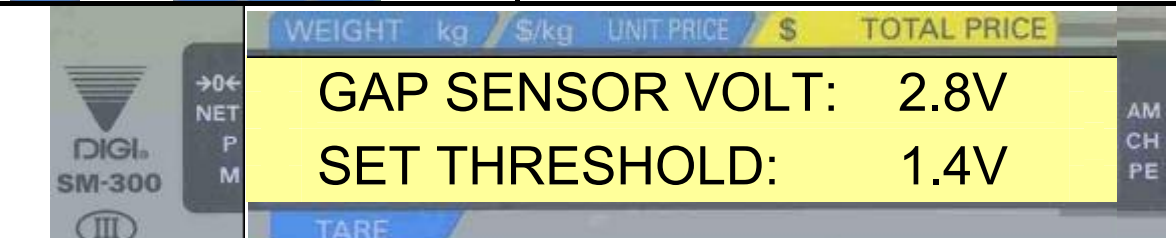
Threshold Voltage

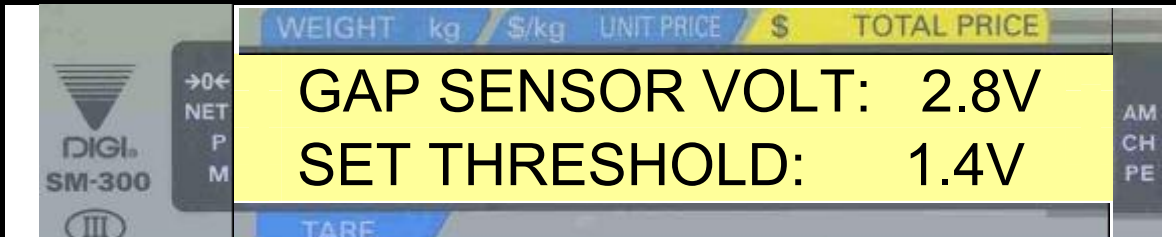
Threshold Voltage or Gap Reference Voltage enables the sensor to determine whether it is a label or gap. It is computed as follow:

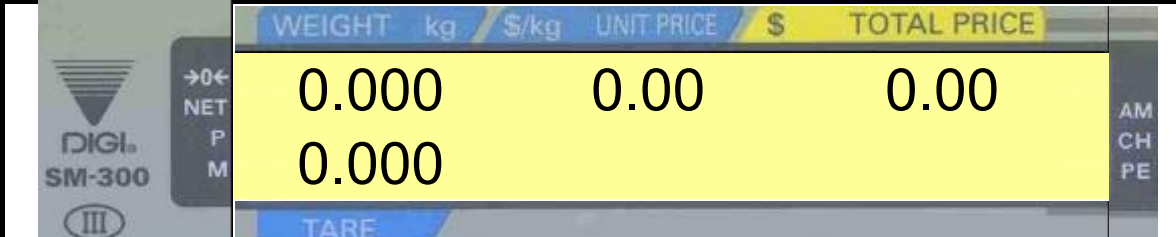
$$\text{Threshold Voltage} = (\text{highest detected value} + \text{lowest detected value}) / 2$$

Portion on the label with Gap Sensor Voltage above Threshold Voltage is considered as label. And portion below the Threshold Voltage is considered as gap. Threshold Voltage is computed automatically when [FEED] key is pressed. It can also manually adjust using P7 and P8 preset key.

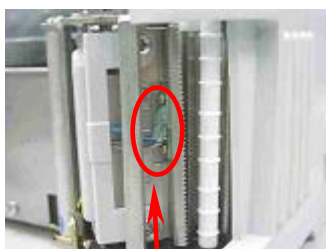
KEY TO PRESS	OPERATION
	At R mode.
	

KEY TO PRESS	OPERATION
→0← + 5 1 6	
	

KEY TO PRESS	OPERATION
Adjust the variable resistor to increase or decrease the voltage level	Pull the label. If gap on sensor, the voltage level should be low while label on sensor, the voltage level should be high.
	

KEY TO PRESS	OPERATION
→T←	Exit to R mode.
	

4.2.3 Peel Sensor



The peel sensor.

To set the peel sensor voltage if the peel sensor is not working normally in some situations like temperature and humidity changed.

The peel sensor voltage can be set automatically by press the # key.


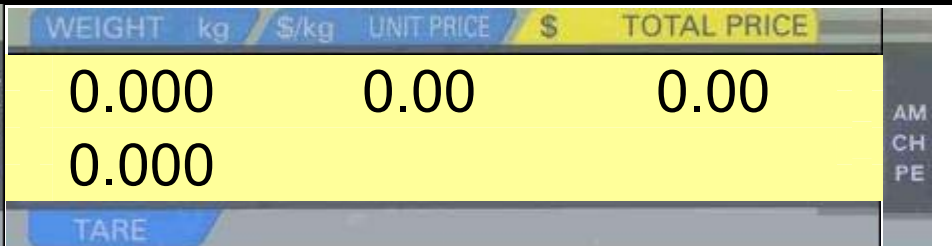
KEY TO PRESS	OPERATION
	At R mode.
	<div>WEIGHT kg / \$/kg UNIT PRICE \$ TOTAL PRICE</div> <div>0.000 0.00 0.00</div> <div>0.000</div>


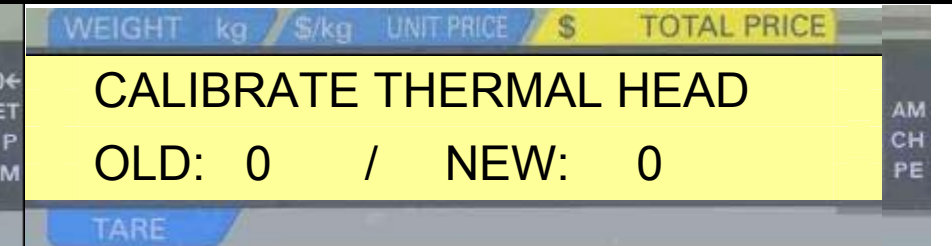
KEY TO PRESS	OPERATION
	<div>WEIGHT kg / \$/kg UNIT PRICE \$ TOTAL PRICE</div> <div>PEEL SENSOR VOLT: 4.9V</div> <div>NEW: 0.0V / * AUTO SET</div>


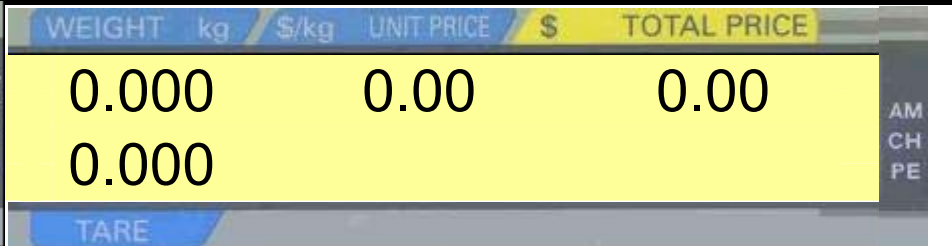
KEY TO PRESS	OPERATION
	Once the key is press, it will auto set the voltage value and exit to R mode.
OR	
Enter a value of the sensor voltage then press	You can enter the value of the peel sensor voltage then press the PLU key to save and exit to R mode.
OR	
	Exit to R mode without doing anything.
	<div>WEIGHT kg / \$/kg UNIT PRICE \$ TOTAL PRICE</div> <div>0.000 0.00 0.00</div> <div>0.000</div>

4.2.4 Printing Position

To adjust the printing position when printing is out of alignment. The process only allows adjusting vertical position only.

KEY TO PRESS	OPERATION
	At R mode.
	

KEY TO PRESS	OPERATION
→0← + 5 1 4	
	

KEY TO PRESS	OPERATION
2 0	Adjust upward.
OR	
2 0 -	Adjust downward.
OR	
PLU	Store new value and exit to R mode.
	

4.2.5 Voltage Checkpoint

There are several voltage checkpoints on the PCB boards. Below are some reference voltages points that are commonly use.

VOLTAGE POINT	VOLTAGE	PURPOSE
V_{CC}	5.0 V	Provide voltage for most of the IC
V_{TH}	24 V	Provide voltage mainly to the thermal head
V_{BB} (Off-state)	2.5 V	Provide backup voltage for the RAM IC when power is off
V_{BB} (On-state)	4.5 V	Provide backup voltage for the RAM IC when power is on

The tolerance of all the voltage is about $\pm 5\%$ except V_{TH} is +2% and -5%.

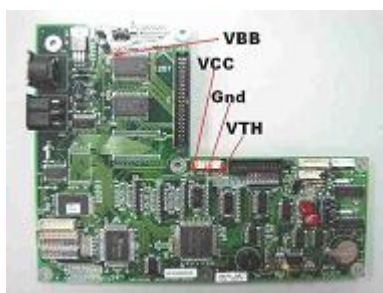





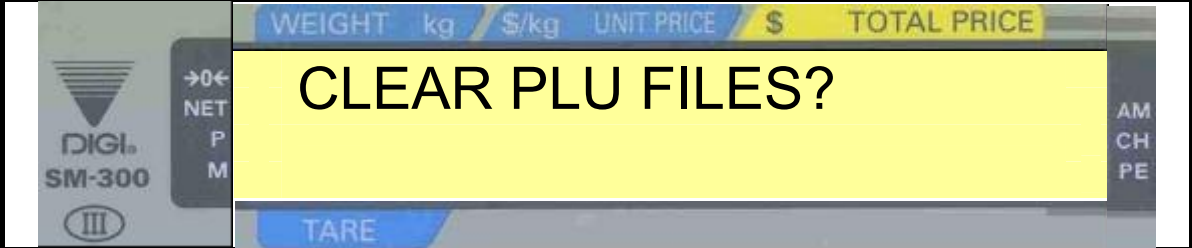
Figure 4.2.5 Voltage Checkpoint




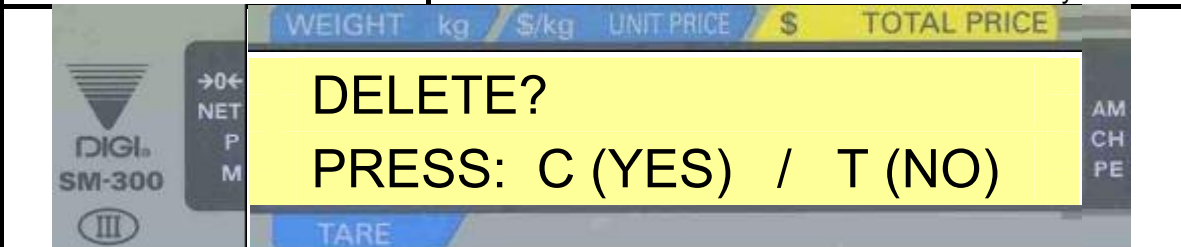
4.3 Memory Clear



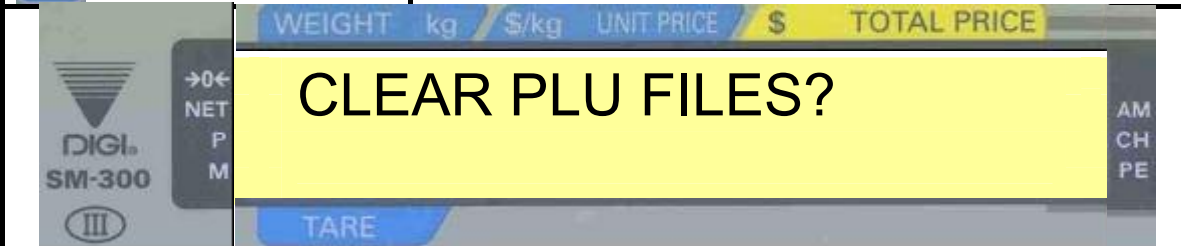
4.3.1 Clearing Data Files




KEY TO PRESS	OPERATION
	Go to Z mode.


KEY TO PRESS	OPERATION
	Access code to files clear.

KEY TO PRESS	OPERATION
 0  + 	Access to files clear menu.
	


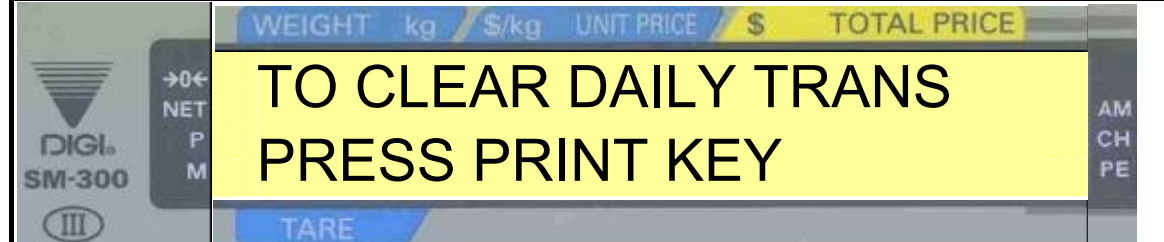
KEY TO PRESS	OPERATION
 & 	Press Preset key 7 & 8 for select the file to clear.
Then	
	<ol style="list-style-type: none"> 1. Clear PLU Files 2. Clear Format Files 3. Clear Other Files 4. Clear All Files 5. Clear Clerk Files
	<p>Clear PLU files only.</p> <p>Clear free format files only.</p> <p>Clear other files except 1 & 2.</p> <p>Clear all files</p> <p>Clear clerk files only</p>
	



KEY TO PRESS	OPERATION
 T 	Clear and Exit
	


KEY TO PRESS	OPERATION
 Clear and Exit	Exit to Z mode.
OR	
 OR  Exit without clear	

	<div>WEIGHT kg / \$/kg UNIT PRICE \$ TOTAL PRICE</div> <div>TO CLEAR DAILY TRANS PRESS PRINT KEY</div> <div>TARE</div>	<div>AM CH PE</div>
---	--	-----------------------------

4.3.2 Clearing Transaction Files

KEY TO PRESS	OPERATION
	Go to Z mode.
	

KEY TO PRESS	OPERATION
<div></div>	Press Multiply key to select the type of transaction to clear. 1. To clear daily transaction 2. To clear monthly transaction 3. To clear term transaction 4. To clear all transaction
Then	
<div></div>	



→←
NET
P
M

WEIGHT kg / \$/kg

UNIT PRICE \$



TOTAL PRICE

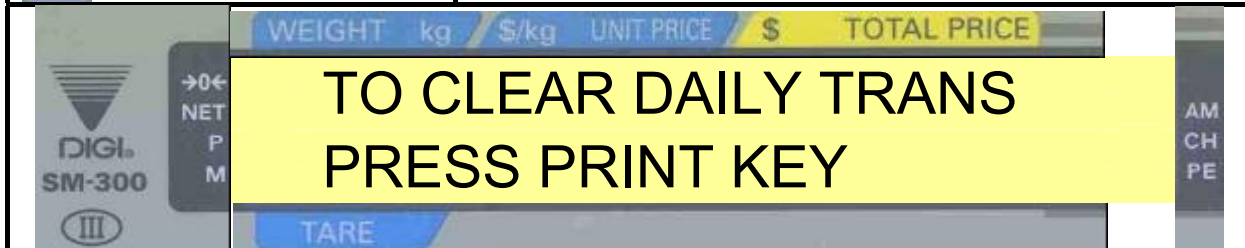
CLEAR DAILY TRANS?

PRESS: C(YES) / T(NO)



TARE

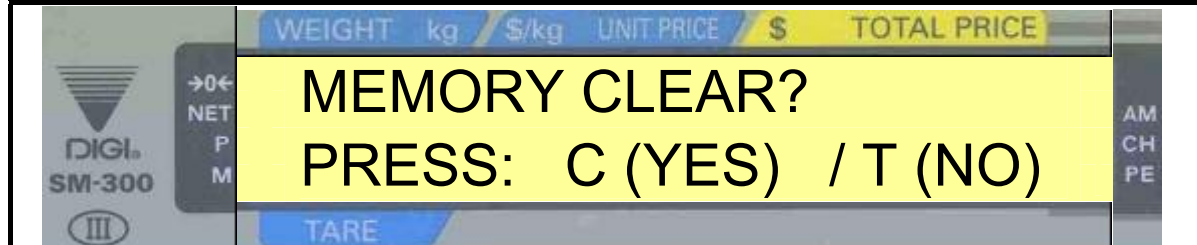
AM
CH
PE


KEY TO PRESS	OPERATION
 Clear and Exit	Exit to Z mode.
OR	
 Exit without clear.	

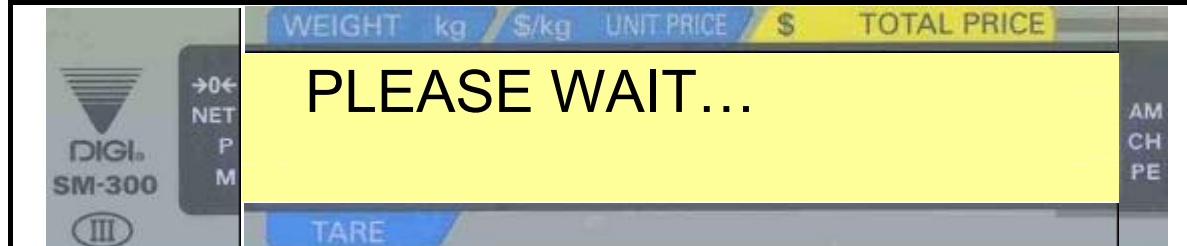



4.3.3 Clearing All Files

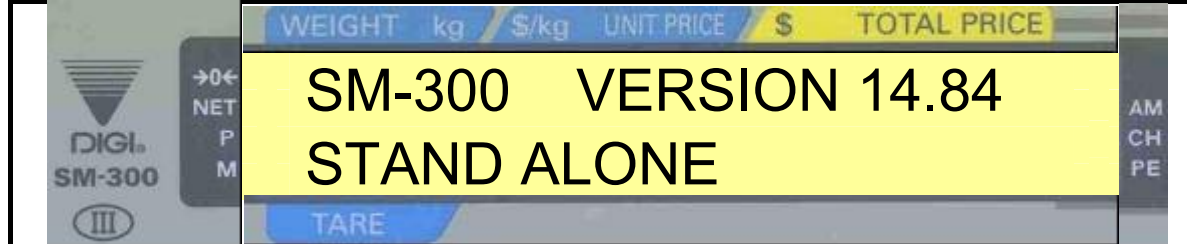
KEY TO PRESS	OPERATION
 + 	Power Off the scale; hold both keys shown on left side and Power On the scale. Clear Static RAM data and file initialize.



KEY TO PRESS	OPERATION
	Process of initialization, then goes to segment check.



KEY TO PRESS	OPERATION
	Go to segment check.



4.4 Data Backup

4.4.1 System Configuration

SPEC 51 BAUD RATES OF SIO (RS232C PORT)

0	1200	3	9600
1	2400	4	19200
2	4800	5	38400

SPEC 52 DATA LENGTH OF SIO (RS232C PORT)

0	7 bits	1	8 bits
---	--------	---	--------

SPEC 53 PARITY BIT OF SIO (RS232C PORT)

0	None	2	Even
1	Odd		

SPEC 54 STOP BIT OF SIO (RS232C PORT)

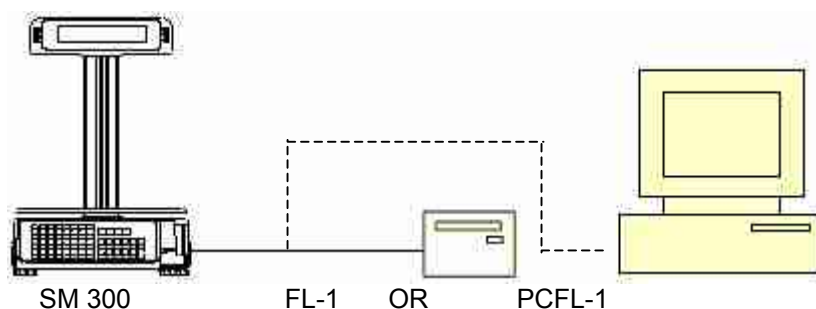
0	1 bits	1	2 bits
---	--------	---	--------

SPEC 60 SIO SELECT JOB

0	No operation	2	FL-1
1	FIS 3000	3	Point & Shop

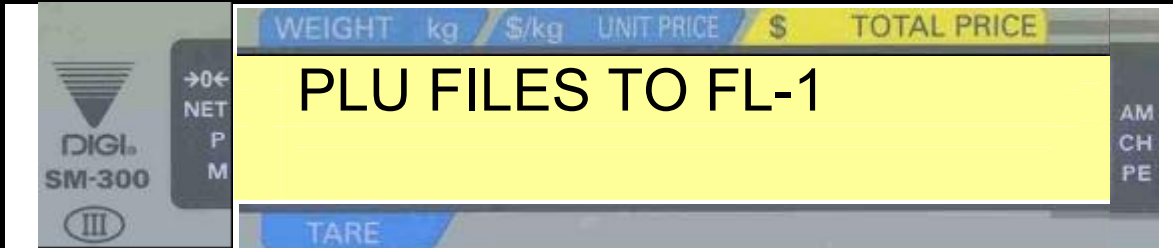
SPEC 134 HOST COMMUNICATION

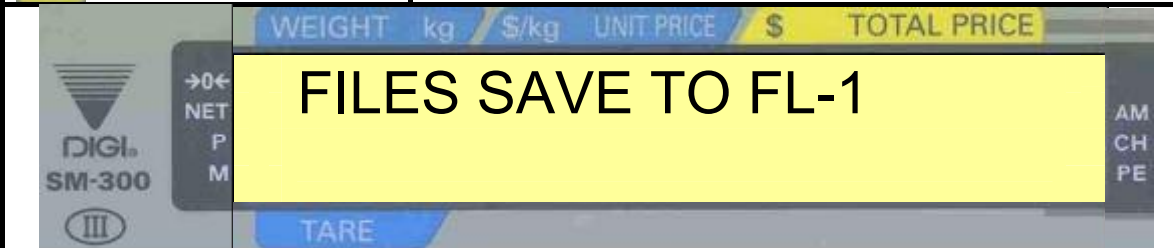
0	RS-232 bits	1	RS-485
---	-------------	---	--------

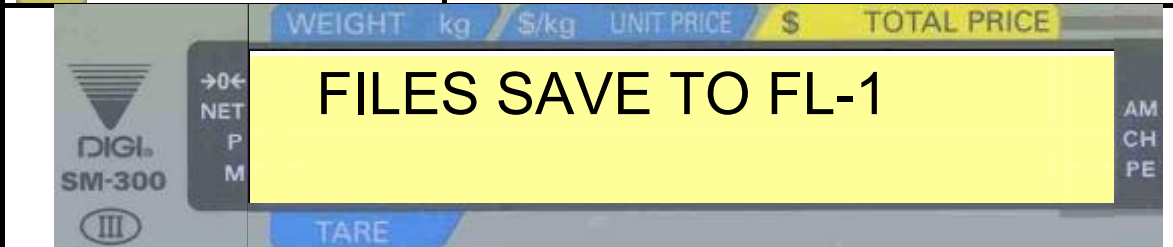


4.4.2 Data Transfer Of SM 300 And FL-1 Or PCFL-1

KEY TO PRESS	OPERATION
→0<	Go to Z mode.

KEY TO PRESS	OPERATION
→0← + □ 1 □	Access to files transfer menu.
 <p>The image shows the DIGI SM-300 scale display. The top status bar includes 'WEIGHT kg', '\$/kg', 'UNIT PRICE \$', and 'TOTAL PRICE'. The main display area shows 'PLU FILES TO FL-1' in large black text on a yellow background. To the left of the display is a vertical menu with '→0←', 'NET', 'P', and 'M'. To the right is another vertical menu with 'AM', 'CH', and 'PE'. At the bottom, there is a 'TARE' button.</p>	

KEY TO PRESS	OPERATION
CLERK & PP% DP	Press Preset key 7 & 8 to select the files type to transfer.
Then *	<ol style="list-style-type: none"> 1. PLU files to FL-1 2. Format files to FL-1 3. Other files to FL-1 4. All files to FL-1
 <p>The image shows the DIGI SM-300 scale display. The top status bar includes 'WEIGHT kg', '\$/kg', 'UNIT PRICE \$', and 'TOTAL PRICE'. The main display area shows 'FILES SAVE TO FL-1' in large black text on a yellow background. To the left of the display is a vertical menu with '→0←', 'NET', 'P', and 'M'. To the right is another vertical menu with 'AM', 'CH', and 'PE'. At the bottom, there is a 'TARE' button.</p>	

KEY TO PRESS	OPERATION
CLERK & PP% DP	Press Preset key 7 & 8 to select the job.
Then *	<ol style="list-style-type: none"> 1. Files save to FL-1 2. Files read from FL-1 3. Verify files with FL-1
 <p>The image shows the DIGI SM-300 scale display. The top status bar includes 'WEIGHT kg', '\$/kg', 'UNIT PRICE \$', and 'TOTAL PRICE'. The main display area shows 'FILES SAVE TO FL-1' in large black text on a yellow background. To the left of the display is a vertical menu with '→0←', 'NET', 'P', and 'M'. To the right is another vertical menu with 'AM', 'CH', and 'PE'. At the bottom, there is a 'TARE' button.</p>	





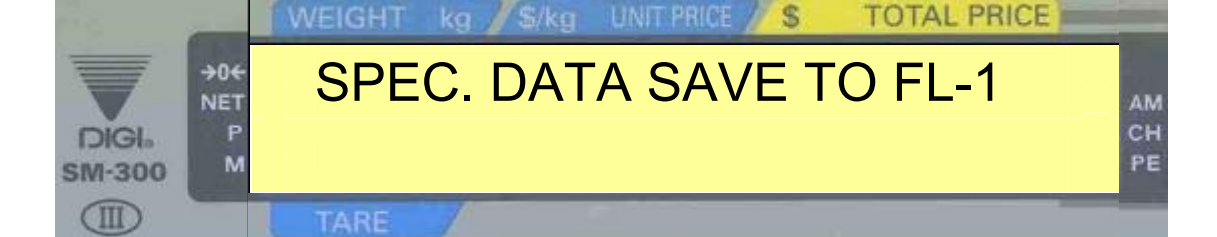
KEY TO PRESS	OPERATION
	Transferring result status. It will display after all data is transfer.
<p>The image shows the SM-300 display with a yellow background and the text 'FILES SAVE TO FL-1'. The top status bar shows 'WEIGHT kg / \$/kg UNIT PRICE \$ TOTAL PRICE'. The left side has a 'DIGI SM-300' logo and a 'NET P M' indicator. The right side has 'AM CH PE' indicators. A 'TARE' button is visible at the bottom.</p>	

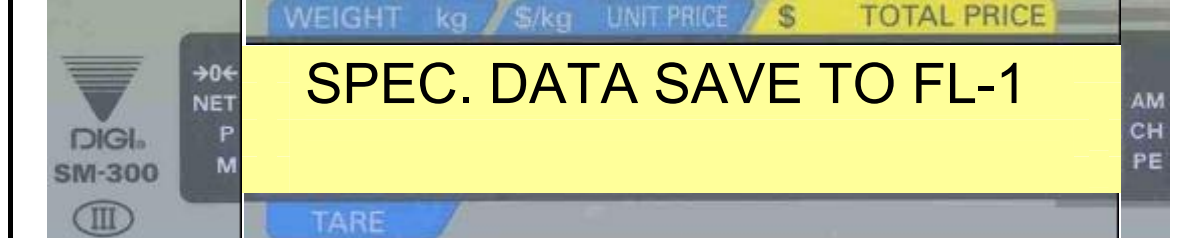
KEY TO PRESS	OPERATION
→T←	Exit without clear. Back to Z mode.
<p>The image shows the SM-300 display with a yellow background and the text 'TO CLEAR DAILY TRANS PRESS PRINT KEY'. The top status bar shows 'WEIGHT kg / \$/kg UNIT PRICE \$ TOTAL PRICE'. The left side has a 'DIGI SM-300' logo and a 'NET P M' indicator. The right side has 'AM CH PE' indicators. A 'TARE' button is visible at the bottom.</p>	


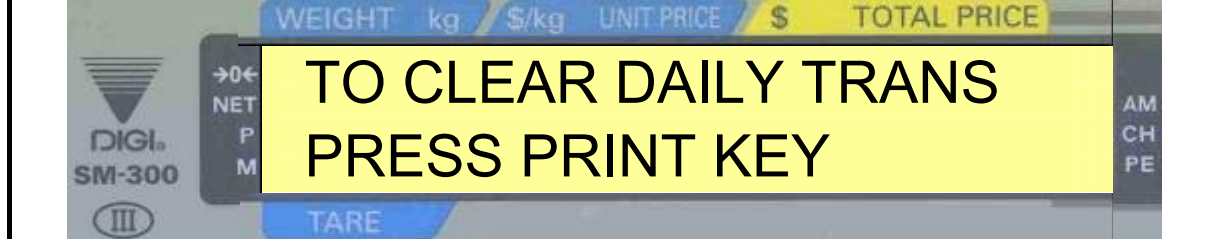
4.4.3 Specification Data Transfer Of SM 300 And FL-1 Or PCFL-1

KEY TO PRESS	OPERATION
→0←	Go to Z mode.
<p>The image shows the SM-300 display with a yellow background and the text 'TO CLEAR DAILY TRANS PRESS PRINT KEY'. The top status bar shows 'WEIGHT kg / \$/kg UNIT PRICE \$ TOTAL PRICE'. The left side has a 'DIGI SM-300' logo and a 'NET P M' indicator. The right side has 'AM CH PE' indicators. A 'TARE' button is visible at the bottom.</p>	

KEY TO PRESS	OPERATION
→0← + 1 4 8	Access to Spec data transfer menu. Please turn on the SPAN switch before enter the access code.
<p>The image shows the SM-300 display with a yellow background and the text 'SPEC. DATA SAVE TO FL-1'. The top status bar shows 'WEIGHT kg / \$/kg UNIT PRICE \$ TOTAL PRICE'. The left side has a 'DIGI SM-300' logo and a 'NET P M' indicator. The right side has 'AM CH PE' indicators. A 'TARE' button is visible at the bottom.</p>	

KEY TO PRESS	OPERATION
  	Press Preset key 7 & 8 to select the job.
Then	
	1. Spec. Data save to FL-1 2. Spec. Data read from FL-1 3. Verify files with FL-1
	




KEY TO PRESS	OPERATION
	Transferring result status. It will display after all data is transfer.
	

KEY TO PRESS	OPERATION
	Back to Z mode.
	

5. ASSEMBLY/DISASSEMBLY

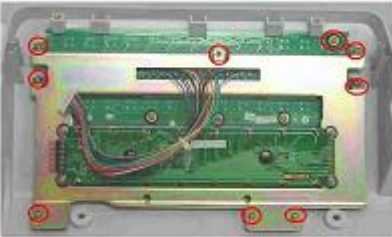
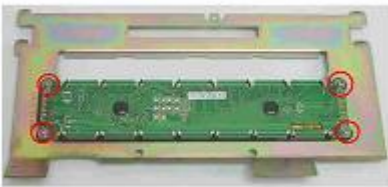
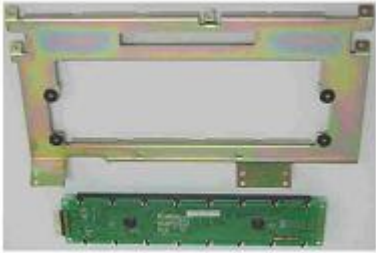

5.1 Bench and Pole Type

5.1.1 Top Cover

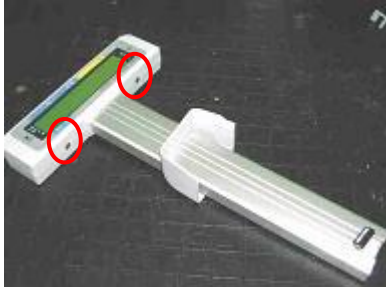
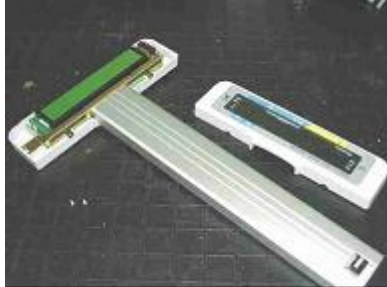
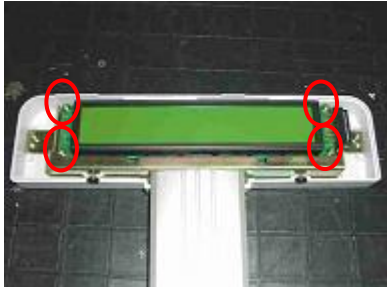

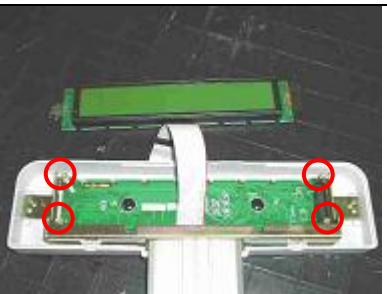
		
<p>1. Remove the platter.</p>	<p>2. Remove the platter support by loosens 4 screws at the platter support. Also loosen the other 6 screws, which located at 4 corners and the other 2 screws at the downside front panel.</p>	<p>3. Carry the cover up then unplugs the keyboard connector from main board and also the display connectors from the display board at the cover. Remove the cover.</p>

5.1.2 Circuit Board

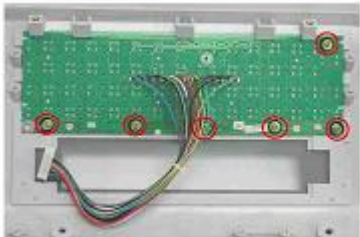

5.1.2.1 Display Board for Bench

		
<p>1. The display board and the keyboard is inside the main cover. Loosen all the screws, which in the red circles.</p>	<p>2. Take out the display board from the cover and loosen 4 screws shown as above.</p>	<p>6. Please handle out the display board with care.</p>
		
<p>7. This is the front view of the display board.</p>		


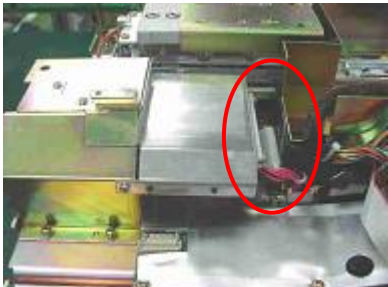

5.1.2.2 Display Board for Pole

		
<p>1. Disassembly the pole display and loosen 2 screws as shown.</p>	<p>2. Remove the front display cover.</p>	<p>3. Loosen 4 screws, which tighten at 4 corner of the display</p>
		
<p>4. Move the display as shown and disconnected it.</p>	<p>5. To remove another display, loosen 4 Axis, which tighten at 4 corners of the other display.</p>	

5.1.2.3 Keyboard Circuit Board




		
<p>1. The display board must be removing first then the keyboard can be unscrewing. 2. Unscrew 6 screws, which screw on the cover. 3. The circles show all the screws location</p>	<p>4. Take out the display board from the cover. 5. This is the front view of the keyboard circuit board.</p>	

5.1.2.4 Interface Main Board






		
<p>1. To open the interface board, loosen 3 screws, which located as shown in the picture.</p>	<p>2. Disconnect the interface board wire from Main Board at the base.</p>	<p>3. Then the interface board can be removed.</p>

5.1.3 Printer Kit

5.1.3.1 Drawer Block

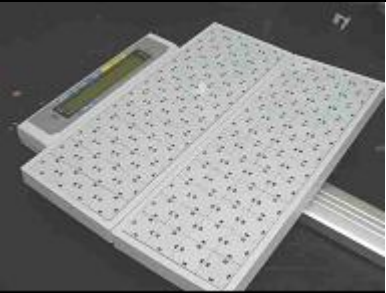
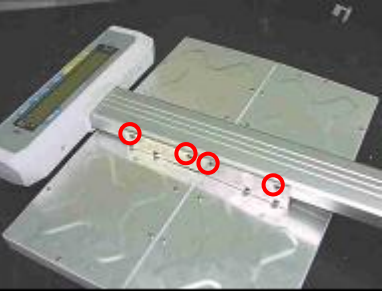

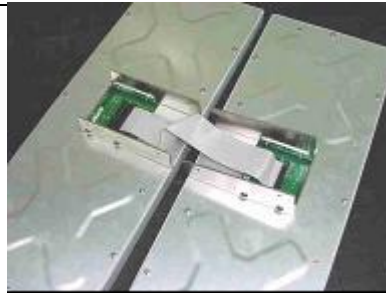
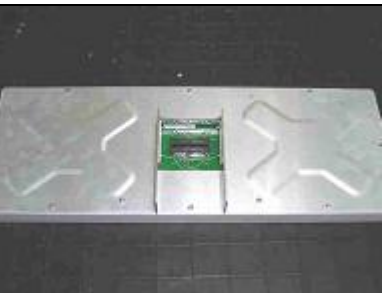
		
<p>1. To open the drawer block, disconnect connector, which connect to Main Board as indicated.</p>	<p>2. Push the both triggers at the same time then the drawer block can be taken out.</p>	<p>3. This is drawer block.</p>

5.1.3.2 Thermal Head

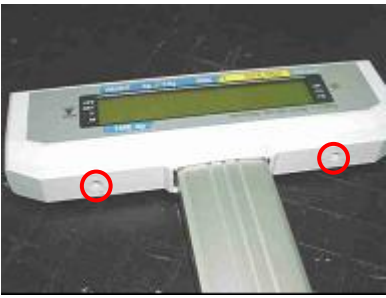
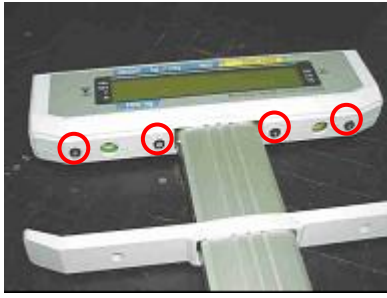
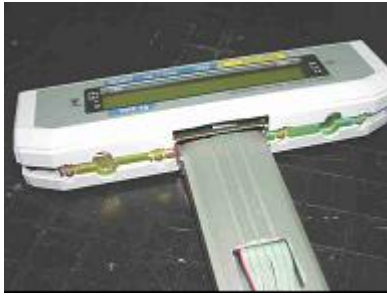
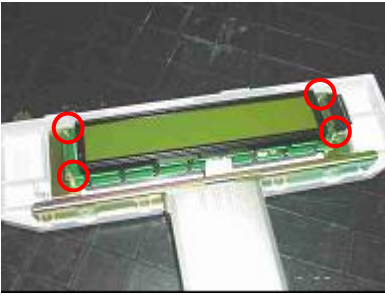
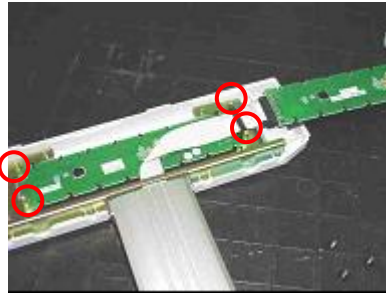
		
1. Open up the drawer of the printer.	2. Disconnect the cable.	3. Loosen the screw as shown in picture.
		
4. Lift up the thermal head from printer kit.	5. This is the thermal head.	

5.2 Self-Service Type

5.2.1 Self-Service Key Board

		
1. Self-Service Display and Keyboard Pole.	2. Upside down the Pole and loosen 4 screws as shown (another side also)	3. Take out the Trucking as shown then disconnect the connector from keyboard.
		
4. Disconnect the keyboard cable, which connect upper keyboard to lower keyboard.	5. This is the one of the keyboard. (Upper or Lower).	

5.2.2 Pole Display

		
1. After remove the upper & lower keyboard, loosen 2 screws as shown above.	2. Take out the lower part cover of the display and then loosen 4 screws as shown.	3. Open the front display cover.
		
4. Move the display as shown and disconnected it.	5. To remove another display, loosen 4 Axis, which tighten at 4 corners of the other display.	






5.3 Hanging Type

5.3.1 Side Cover


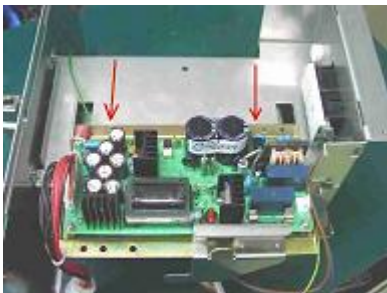

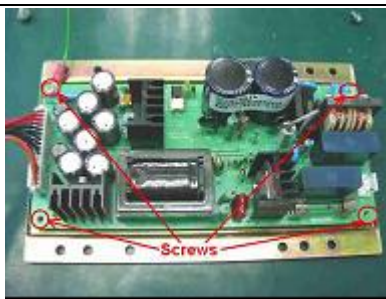
		
1. SM300Hanging	2. Loosen 4 screws for take out the top cover.	3. Lay down the scale and loosen the screws, which locate as shown above.
		
4. Open up the side cover (Left).	5. Loosen the screws on the top of the scale as shown above.	6. Loosen the screws, which shown above.
		
7. Pull out the side cover (Left) from the SM300Hanging scale.	8. Disconnect the Interface Connector from the main board.	9. Open up the side cover (Right).
		
10. Loosen 4 screws on top of the scale as shown above.	11. Pull out the side cover (Right).	

5.3.2 Circuit Board




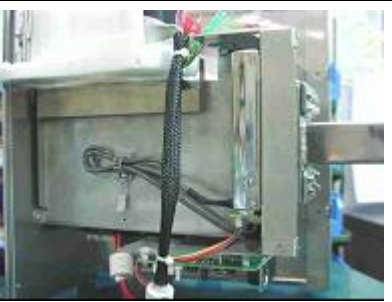
5.3.2.1 Main Board

		
1. The main board can be found after take out the side cover (Left).	2. Disconnected all the cables, which connected on the main board.	3. Loosen the screw at downside corner of the main board.
		
4. Follow the arrow direction for take out the main board.	5. This is the main board.	

5.3.2.2 Power Block



		
1. Loosen the screw, which indicated as above.	2. Then slide out the power block follow the arrow direction.	3. Take out the Bracket AG (Front Panel).
		
4. Loosen 4 screws then the Power Block can be take out.		

5.3.3 Front / Back Panel

		
<p>1. Disconnect the connector of display from main board</p>	<p>2. Open the Cover AD Printer Cutter then loosen the 4 screws, which indicated as above.</p>	<p>3. Take out the Bracket AG (Front Panel).</p>
		
<p>4. Then take out the Bracket AH (Back Panel).</p>		

5.3.4 Printer Kit

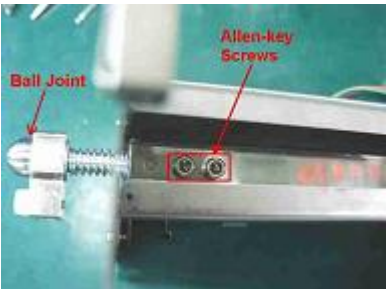

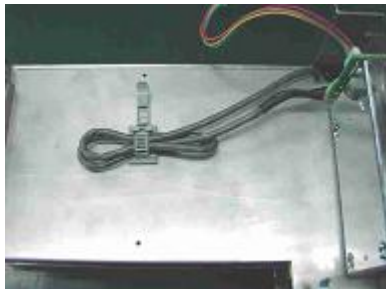
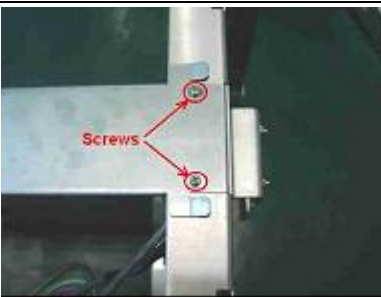
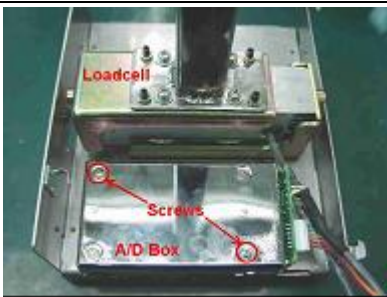
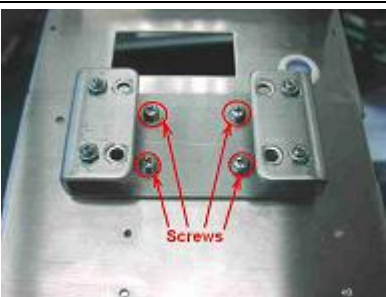
5.2.4.1 Printer Block

		
<p>1. Loosen the screws, which tighten for earth wire.</p>	<p>2. Loosen the screws then the printer block can be replaced.</p>	

5.3.4.2 Thermal Head

Refer to 5.1.3.2 for Thermal head disassembly.

5.3.5 Loadcell

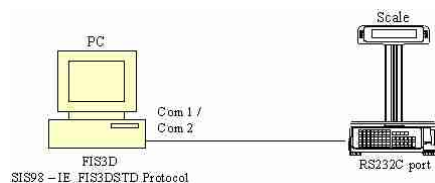
		
<p>1. Loosen 2 Allen-key screws for take out the Ball Joint.</p>	<p>2. Loosen 4 screws at the bottom side then remove the Cover.</p>	<p>3. Release the cable, which tie up as above.</p>
		
<p>4. Loosen 2 screws.</p>	<p>5. Loosen 2 screws, which tightens on the A/D Box.</p>	<p>6. Loosen 4 screws as above for Loadcell.</p>

6. NETWORK CONFIGURATION

6.1 RS-232C / RS-485

6.1.1 System Configuration

6.1.1.1 RS-232C



*** Note:** Only 1 scale can connect in this method. Maximum cable length is 15m.

SPEC setting on scale (Please use the **highlight** selection if any):

spec 48 setting of scale number

Please enter one number from the range of 0 to 999999

spec 51 BAUD RATES OF SIO (RS232C PORT)

0	1200	3	9600
1	2400	4	19200
2	4800	5	38400

spec 52 dATa length of SIO (RS232C PORT)

0	7 bits	3	8 bits
---	--------	---	--------

spec 53 parity bit of sio (RS232C PORT)

0	None	2	Even
1	Odd		

spec 54 stop bit of SIO (RS232C PORT)

0	1 bit	1	2 bits
---	-------	---	--------

spec 60 sio select job

0	No operation	2	FL-1
1	FIS 3000	3	Point & Shop

spec 134 host communication

0	RS-232 bits	1	RS-485
---	-------------	---	--------

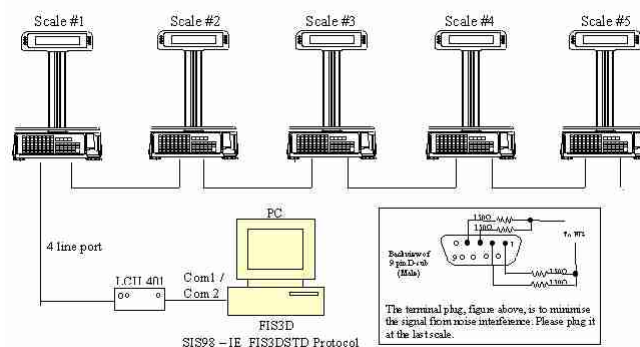
spec 148 fis3000 code

0	SM 80 / 90 FIS3D	1	SM 25 FIS3D
---	------------------	---	-------------

* For using SIS98 – IE_FIS3DSTD protocol, choose SM 25 FIS3D only.

* SIS98 is data management application software.

6.1.1.2 RS-485



Could connect as many scales in this method within 300m (total cable length). Have to download data to scale individually. The LCU 401 is a signal converter, which is, converts the signal from RS232C to RS485 between PC and scale.

SPEC setting on scale (Please use the **highlight** selection if any):

spec 48 setting of scale number
Please enter one number from the range of 0 to 999999

spec 51	BAUD RATES OF SIO (RS232C PORT)			
0	1200	3	9600	
1	2400	4	19200	
2	4800	5	38400	

spec 52	dATa length of SIO (RS232C PORT)			
0	7 bits	3	8 bits	

spec 53	parity bit of sio (RS232C PORT)			
0	None	2	Even	
1	Odd			

spec 54	stop bit of SIO (RS232C PORT)			
0	1 bit	1	2 bits	

spec 60	sio select job			
0	No operation	2	FL-1	
1	FIS 3000	3	Point & Shop	

spec 134	host communication			
0	RS-232 bits	1	RS-485	

spec 148	fis3000 code			
0	SM 80 / 90 FIS3D	1	SM 25 FIS3D	

* For using SIS98 – IE_FIS3DSTD protocol, choose SM 25 FIS3D only.

* SIS98 is data management application software.

6.2 TCP / IP

6.2.1 PC Ethernet Adapter Set-Up

SM300 can be connected to PC through Ethernet, and RS232C interface. The SM300 can use as Client / Server (Ethernet interface only). See below for the connection method.

6.2.1.1 Configuration Of Ethernet Communication On PC

1. Installation Of Ethernet Card Using Windows 95

Please refer to the instruction manual of the Ethernet card on how to install the Ethernet card to your PC or Laptop.

2. Installation of TCP/ IP Protocol

After installing the Ethernet card, we need to install the TCP / IP Protocol. Go to My Computer → Control Panel → Network

A window would shows the type of Ethernet card you have install, if the window shows no display of your Ethernet Card. Reinstall the Ethernet card again.

Click the Add button. You will see another Window. Double click **Protocol** and another window will appear. Select **Microsoft** at the left and then **TCP /IP** at the right side of the window. Click the OKAY button. Get ready Windows 95 installation CD or diskettes, sometimes it may prompt to use it.

6.2.1.2 Configuration Of Ethernet Card On PC Using WINDOWS 95

After install the Ethernet card and TCP / IP protocol, configure the TCP / IP protocol to get ready to communicate with the network.

My Computer → Control Panel → Network→TCP/IP of Ethernet card (Select Properties)

2. IP address: 192.168.0.XXX ----- XXX – a number between 001 to 255.

3. Submask: 255.255.255.0

Above IP address is use as a default address to use for SM 300 Ethernet communication.

Due to some reasons, the IP address had to be change, it may do so. The scale IP address had to be change so as to be in the same submask network with the PC.

For the PC and scales to be in the same submask, the first three set of numbers of the IP address of the PC and scales must be the same so that they are in the same submask. For an example if the PC IP address is changed to 192.168.168.XXX, the SM 300 scale IP address has to be change to C0.A8.A8.XXX (in hex value) = 192.168.168.XXX. The last set of number of the IP address (underline) should not be similar among the PC and scales or other devices within the same submask at all time. The last set of number of the IP address of the scale follow the value of SPEC 135. It is between 1 to 255. The procedure to change the scale IP address is mention on **Section 6.2.2.2** below.

6.2.1.3 Window version client driver (Client /Server or Server/Workstation connection with PC)

When using the window client driver to communicate between PC and SM 300, the HOSTS file have to create to set the scale IP address. Refer to **Section 6.2.3** for connection method.

Go to the C:\WINDOWS directory.

Find a file **HOSTS.SAM**.

Open the file and at the bottom of the file:

Enter 192.168.0.1 [TAB] S0001

192.168.0.2 [TAB] S0002

192.168.0.3 [TAB] S0003

⋮

and so on until last scale number.

Save the file as file name **HOSTS** in the WINDOWS directory.

* 192.168.0.1 - Scale IP address; the last number is the scale number

S0001 - 0001 = scale number

** Above is the standard IP address for SM300 Ethernet communication. If the scale IP address is changed, please change the IP address of the HOST file accordingly.

Refer to Windows Client Driver Manual on how to use and send data to the SM300.

6.2.1.4 SIS 98 (Client/Server or Server/Workstation Connection With PC)

For communication between PC and SM300 using **SIS 98**, only the scale IP address needs to be entering in the **SIS 98**. The file HOSTS do not need to be created. Please refer to the **SIS98** manual on how to enter the scale IP address. Please refer to **Section 6.2.3** for the connection method.





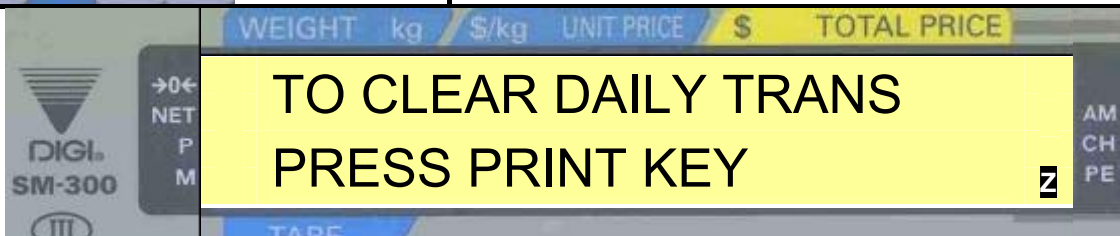
Before setting the SPEC setting of the scale, please check below.







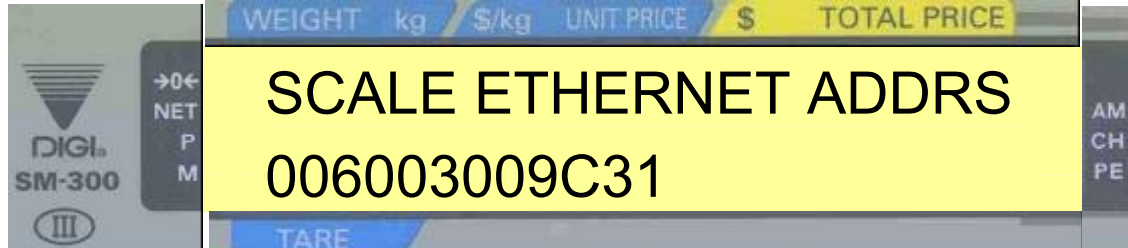
* SIS98 is data management application software.



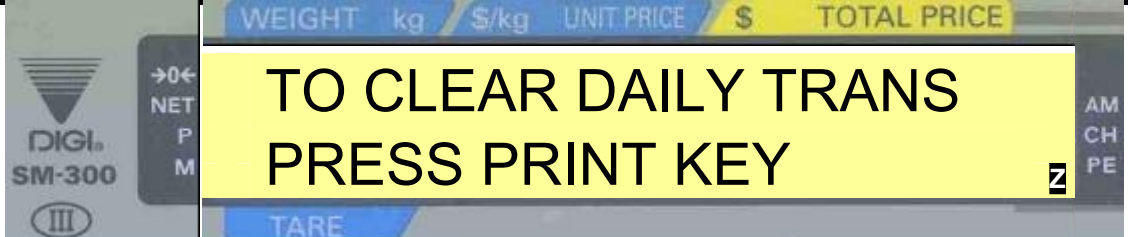
6.2.2 Scale Ethernet Address, Scale IP Address, Server IP Address & Subnet Mask

6.2.2.1 Scale Ethernet Address

The main board has a Scale Ethernet Address that is set during download the firmware version. This address is a hardware setting for Ethernet communication. It had a unique set of number. This address only can be change during downloading the firmware. If the scale is using Ethernet communication, a Scale Ethernet Address is needed apart from software IP address. Below procedure is to view the Scale Ethernet Address.

KEY TO PRESS	OPERATION
   	Go to Z mode.
	

KEY TO PRESS	OPERATION
  +    	Access to view the scale Ethernet address.
	

KEY TO PRESS	OPERATION
 	Back to Z mode.
	





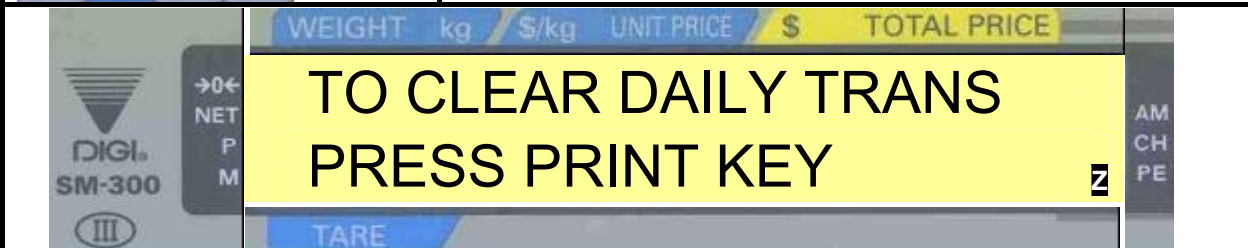
6.2.2.2 Scale IP Address






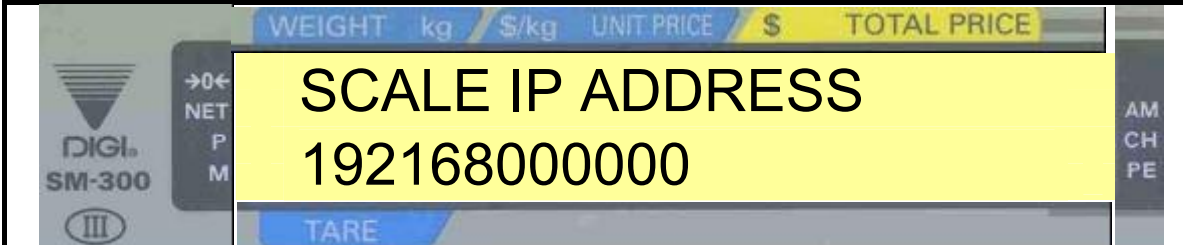
This is to change the default IP address to other IP address for PC communication using Ethernet interface.










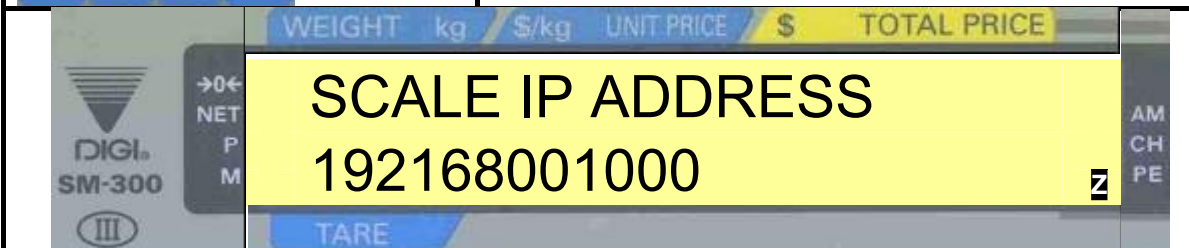
This should not be confused with the Scale Ethernet Address as above. The Scale Ethernet Address is mainly set for hardware purpose and Scale IP Address is set for software purpose. When communicating with PC using Ethernet interface, the scales IP addresses have to be known in the software in order to communicate.

The default IP address of the scale is **192.168.000.000** where the last three digits (underline) follow the value set at SPEC 135. E.g. If SPEC 135 is 20. The IP address will be 192.168.000.020. Please turn on the **span switch** before proceed.

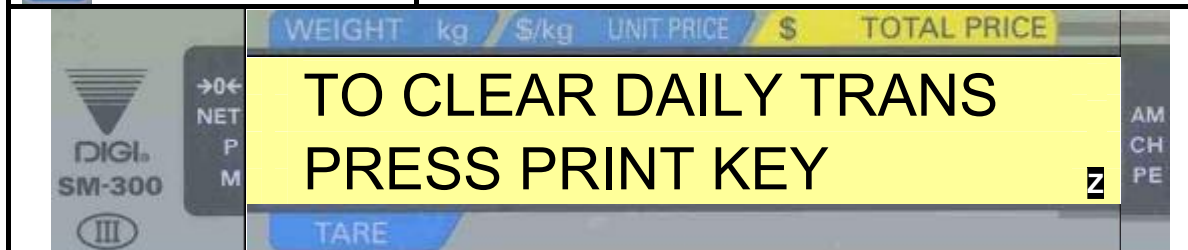
Below is an example to change the default IP address 192.168.000.000 to 192.168.001.000

KEY TO PRESS	OPERATION
   	Go to Z mode.
	

KEY TO PRESS	OPERATION
    	Display default IP address.
	

KEY TO PRESS	OPERATION
    	Changing of IP address.
   	E.g. Change the default IP address to 192.168.001.000. ** Take note that the last three digits (underline) need not to enter as it follow the value set at SPEC 135.
	

KEY TO PRESS	OPERATION
PLU	Save the address and escape to Z mode.
OR	
→T←	Escape to Z mode without saving.



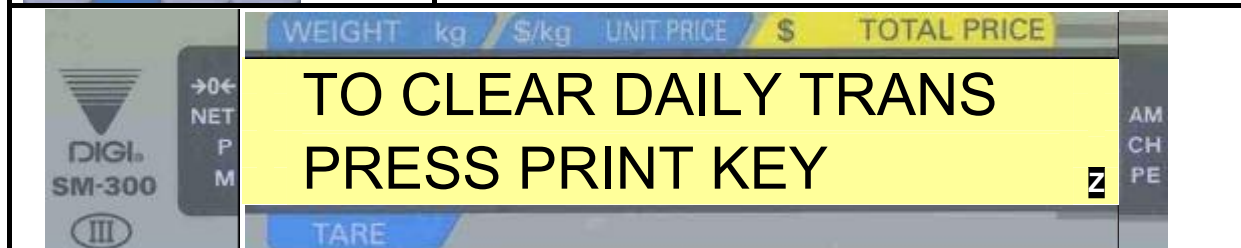
The image shows the scale's LCD display. At the top, it shows 'WEIGHT kg / \$/kg UNIT PRICE \$ TOTAL PRICE'. Below this, a large yellow banner reads 'TO CLEAR DAILY TRANS PRESS PRINT KEY'. To the right of the banner is a small 'Z' icon. On the left side of the display, there is a 'DIGI SM-300' logo and a 'TARE' button. On the right side, there are 'AM', 'CH', and 'PE' indicators.

REMARK: Please restart the scale every time after changing the SPEC.

IMPORTANT: Please take note that each scale must have different port number and Ethernet address as the other. Same port number and Ethernet address would make the network to a standstill. These apply to other equipment sharing the same hub or link up. To avoid complication in the network, try to have the scale network with its own PC Ethernet card and hubs (a suggestion only).

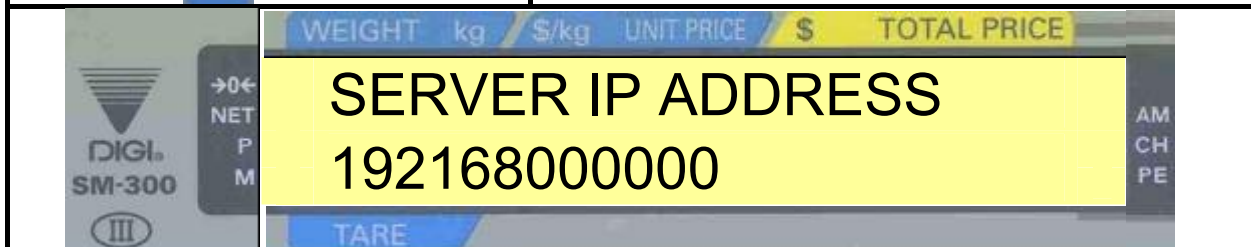
6.2.2.3 Server IP Address

KEY TO PRESS	OPERATION
→0←	Go to Z mode.


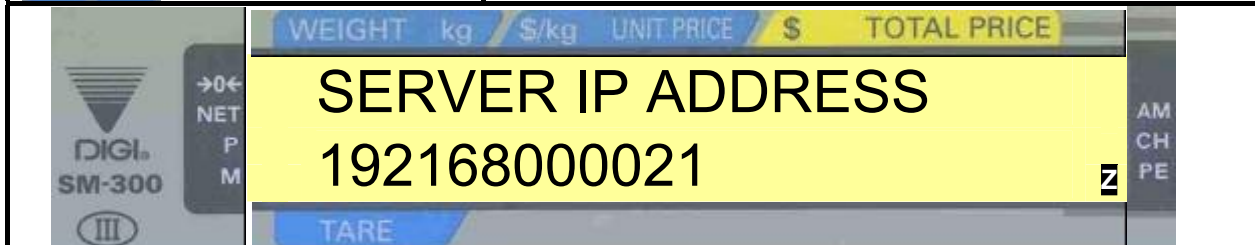


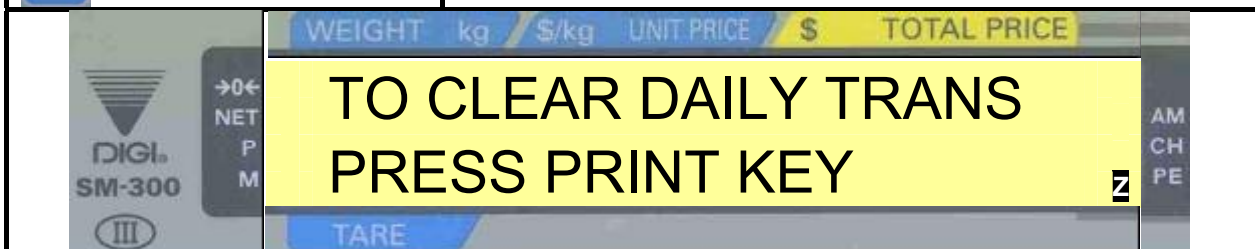
The image shows the scale's LCD display. At the top, it shows 'WEIGHT kg / \$/kg UNIT PRICE \$ TOTAL PRICE'. Below this, a large yellow banner reads 'TO CLEAR DAILY TRANS PRESS PRINT KEY'. To the right of the banner is a small 'Z' icon. On the left side of the display, there is a 'DIGI SM-300' logo and a 'TARE' button. On the right side, there are 'AM', 'CH', and 'PE' indicators.

KEY TO PRESS	OPERATION
→0← + 4 1 7	Display default Server IP address.



The image shows the scale's LCD display. At the top, it shows 'WEIGHT kg / \$/kg UNIT PRICE \$ TOTAL PRICE'. Below this, a large yellow banner reads 'SERVER IP ADDRESS 192168000000'. To the right of the banner is a small 'Z' icon. On the left side of the display, there is a 'DIGI SM-300' logo and a 'TARE' button. On the right side, there are 'AM', 'CH', and 'PE' indicators.





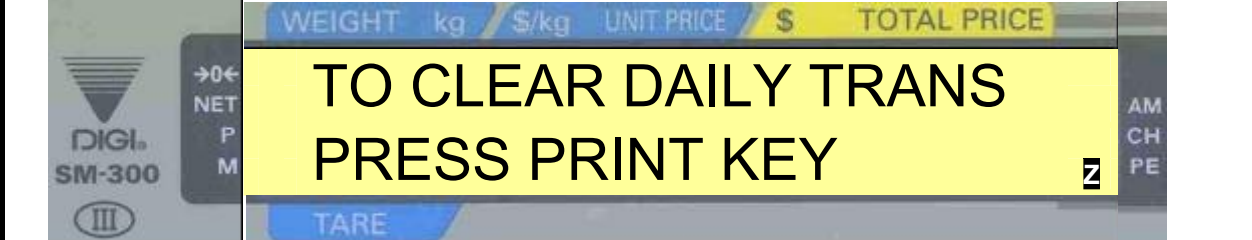
KEY TO PRESS	OPERATION
	Changing of IP address. E.g. Change the default IP address to 192.168.000.021. ** Take note that the last three digits (underline) need not to enter as it follow the value set at SPEC 135.
	






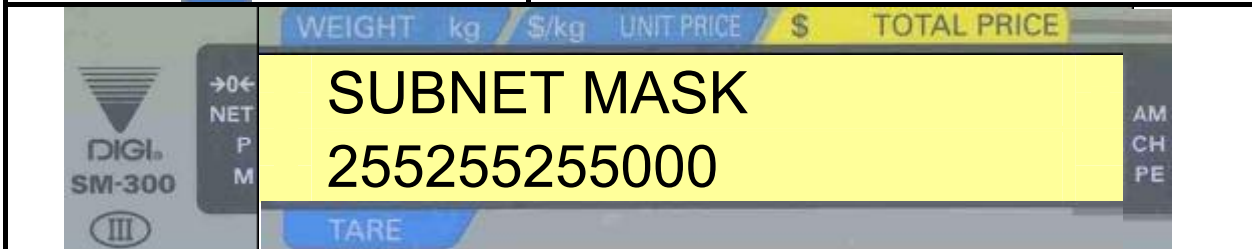
KEY TO PRESS	OPERATION
PLU	Save the address and escape to Z mode.
OR	
→T←	Escape to Z mode without saving.
	

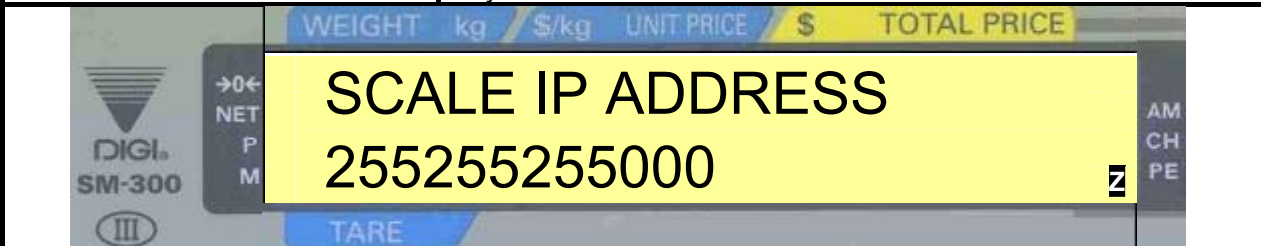
REMARK: Please restart the scale every time after changing the SPEC.



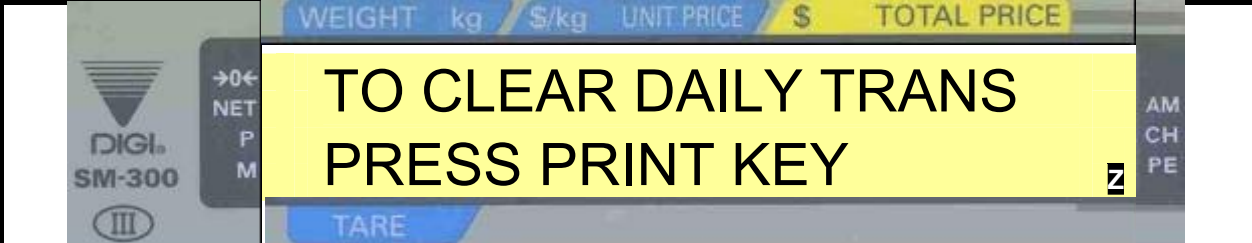
IMPORTANT: Please take note that each scale must have different port number and Ethernet address as the other. Same port number and Ethernet address would make the network to a standstill. These apply to other equipment sharing the same hub or link up. To avoid complication in the network, try to have the scale network with it own PC Ethernet card and hubs (a suggestion only).

6.2.2.4 Subnet Mask

KEY TO PRESS	OPERATION
   	Go to Z mode.
	

KEY TO PRESS	OPERATION
 +    	Display default Subnet Mask.
	

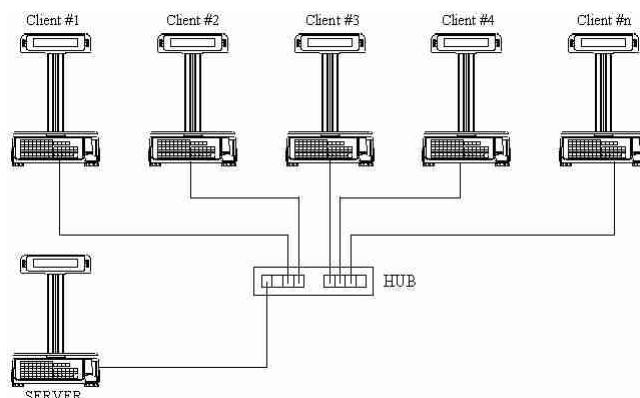
KEY TO PRESS	OPERATION
	Key in Subnet Mask desired.
	

KEY TO PRESS	OPERATION
	Save the address and escape to Z mode.
OR	
	Escape to Z mode without saving.
	

REMARK: Please restart the scale every time after changing the SPEC.

6.2.3 System Configuration

6.2.3.1 Server / Client



*** NOTE: Only 8 scales can be connected in this method:**

1 x SM 300 Server; 7 x SM 300 Client

SPEC setting on scale (Please use the **highlight** selection if any):

spec 49 type OF client / server interface

0	No Interface	3	Not Used
1	Ethernet (Coaxial Cable)	4	4 Lines, RS485
2	Ethernet (Twisted Cable)		



spec 150 type OF client / server interface

0	Client	2	Back Up Server
1	Server / Workstation		

spec 135 port number (Use when ethernet interface is selected)

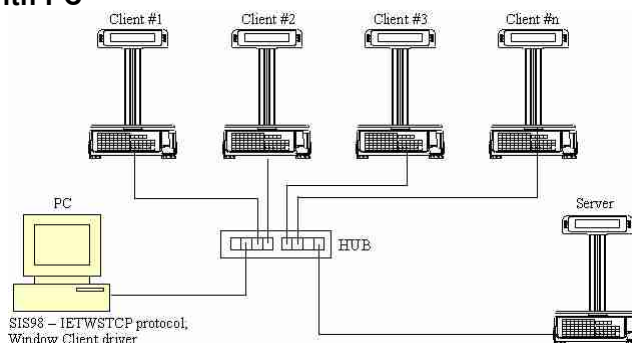
Please enter a number between 1 to 255

NOTE:

Please clear the memory ( +  when power on) of the scale after setting the SPEC for the Ethernet Client / Server connection.

IMPORTANT: The maximum length of cable is 100 meters from point to point (from hub to scale).

6.2.3.2 Server / Client with PC



* **NOTE:** Only 7 scales can be connected in this method:

- 1 x SM 300 Server;
- 6 x SM 300 Client;
- 1 x PC



SPEC setting on scale (Please use the **highlight** selection if any):

spec 49	type OF client / server interface		
0	No Interface	3	Not Used
1	Ethernet (Coaxial Cable)	4	4 Lines, RS485
2	Ethernet (Twisted Cable)		

spec 150	type OF client / server interface		
0	Client	2	Back Up Server
1	Server / Workstation		

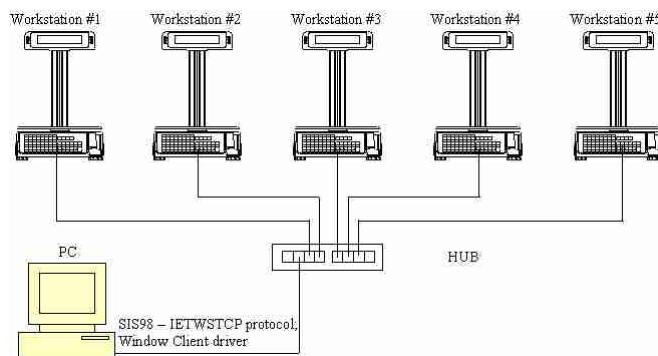
spec 135 port number (Use when ethernet interface is selected)
Please enter a number between 1 to 255

NOTE:

Please clear the memory ( +  when power on) of the scale after setting the SPEC for the Ethernet Client / Server connection.

IMPORTANT: The maximum length of cable is 100 meters from point to point (from hub to scale or PC).

6.2.3.3 All Server



* **NOTE:** Only 99 SM 300 scales can be connected in this method
PC must to have an Ethernet card

Downloading of data to individual scale one by one.

SPEC setting on scale (Please use the **highlight** selection if any):

spec 49 type OF client / server interface

0	No Interface	3	Not Used
1	Ethernet (Coaxial Cable)	4	4 Lines, RS485
2	Ethernet (Twisted Cable)		



spec 150 type OF client / server interface

0	Client	2	Back Up Server
1	Server / Workstation		

spec 135 port number (Use when ethernet interface is selected)

Please enter a number between 1 to 255

NOTE:

Please clear the memory ( +  when power on) of the scale after setting the SPEC for the Ethernet Client / Server connection.

IMPORTANT: The maximum length of cable is 100 meters from point to point (from hub to scale or PC).

6.3 Wireless Configuration For Model SM 300

Wireless communication has been implemented from SM90/500/300 ver14.53 onwards. The configuration procedure is as follows.

For the first time installation, read default country spec and do initialization for scale. Reload default setting to the RF Card by [Reset] button (on the RF Card) depressed with power on.

2. Go to SPEC SETTING MODE by [Rezero+141]

Enable spec317 for WIRELESS COMMUNICATION.

Enable scale's Ethernet communication and configure it as Server type (spec49, 50).

Set spec135 for the last number of scale's IP address. This IP tail should be as same as the WIRELESS IP tail. E.g. if the IP address for WLAN is 192.168.0.200, this scale's IP (SPEC135) should be set to '200'. But avoid selecting '2' as scale's IP tail (spec135).

Quit with spec saving by key [PLU].

Go to Z Mode, set scale's IP address by [Rezero+0416]. This IP address should be fixed as 010.0.0.xxx. (xxx is set by spec135)

Power off/on scale with memory clearing. Scale will wait about 30sec for the RF Card rebooting.

3. Go to P44X 'WIRELESS PROGRAMMING' under Programming Mode.

Program ESSID according to the Access Point configuration. Max. 32 characters can be entered.

Program WEP according to the Access Point configuration and it's PCMCIA card. There are two types of WEP. One is 40 bit and another one is 104 bit. So the setting format is either xxxx-xxxx-xx for 40 bits or xxxx-xxxx-xxxx-xxxx-xxxx-xx for 104 bits. All x should be in Hex.

Set WIRELESS IP ADDRESS. This IP address is used for WLAN. Any communication from outside network to scale will use this IP.

WIRELESS ROUTER ADDRESS and WIRELESS MASK can be set depending on the customer network setup. Just leave them as any value if don't use them.

Press key [Tare] to skip ADVANCE SETTINGS. Password would be required to enter this setting.

Press key [PLU] to save Wireless configuration.

5. Press key [Clear] to send the configuration to RF Card. Error message 'ETHERNET COMM. ERROR' will be shown if the sending is unsuccessful.





6. Power off/on scale again. The new configuration will take effect on the RF Card.





7. FIRMWARE

7.1 WinDload v2.10

The software use for downloading firmware version to scale is WinDload.



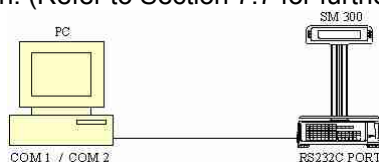
Buttons	Press for
 winDload2	Shortcut icon.
	Update bin file from zip file.
	Com port setting.
	File (data) locations.

Buttons	Press for
	Production setting with password lock.
	Reset the software.
	Help.
	Start to detect the com port using

7.2 Firmware Version Upgrade

SM300 use flash ROM instead of EPROM for the main program storage of the scale. When upgrading of scale firmware, there are 2 methods to download the firmware.



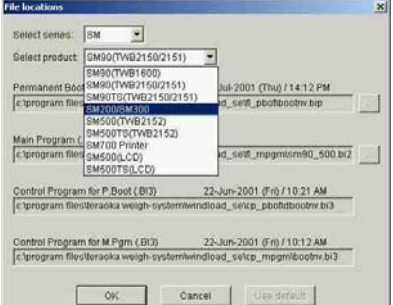


1. PC to scale via RS232C interface.
2. Server / Client Ethernet configuration. (Refer to Section 7.7 for further information)








Please refer to Section 9.4 Wire & Connector.





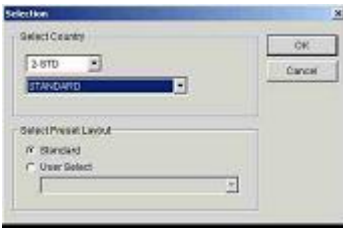

IMPORTANT: Please set the SM300 scale to standalone.


7.3 Bin File Updating

a) 'WinDload v 2.10' software.	
b) Select 'File locations' at the toolbar.	
c) Select product 'SM200/SM300' (M/B) and click 'ok'.	
d) Select 'Update BIN files from ZIP files' at the toolbar.	
e) Click 'Update BIN files from ZIP file'.	

f) Double click folder 'WinDload zip files'. Double click the software version 'XXXXXX' to be downloaded.																															
g) Click 'ok'. (Confirmation for update of bin files)	 <table><thead><tr><th>Filename</th><th>Ver</th><th>Date/Time</th><th>Ver. Download (s)</th></tr></thead><tbody><tr><td>SM80G.S12</td><td>04.04*</td><td>03-Dec-2002/15:42:05</td><td>00000/00000</td></tr></tbody></table> <p>----- ZIP file: 06:50 Total: Ver: 06:55</p> <p>* single-country edition</p>	Filename	Ver	Date/Time	Ver. Download (s)	SM80G.S12	04.04*	03-Dec-2002/15:42:05	00000/00000																						
Filename	Ver	Date/Time	Ver. Download (s)																												
SM80G.S12	04.04*	03-Dec-2002/15:42:05	00000/00000																												
h) Click 'ok'. (This take a moment...)																															
i) Click 'ok'. (Updating successful)																															
j) Click 'Close windows'.	 <table><thead><tr><th>Filename</th><th>Version</th></tr></thead><tbody><tr><td>SM80(TWD)1000</td><td>-</td></tr><tr><td>SM80(TWB)2150(2151)</td><td>-</td></tr><tr><td>SM80(TW)2150(2151)</td><td>-</td></tr><tr><td>SM80(TW)2150</td><td>14.8.4*</td></tr><tr><td>SM80(TW)2152</td><td>-</td></tr><tr><td>SM80(TW)2152</td><td>-</td></tr><tr><td>SP8</td><td>-</td></tr><tr><td>DP508</td><td>-</td></tr><tr><td>SM700 Printer</td><td>-</td></tr><tr><td>DP824P</td><td>-</td></tr><tr><td>DI80</td><td>-</td></tr><tr><td>DC208/DC308</td><td>-</td></tr><tr><td>SM800(LCD)</td><td>-</td></tr><tr><td>SM80(TW)CC</td><td>-</td></tr></tbody></table> <p>* single-country edition</p>	Filename	Version	SM80(TWD)1000	-	SM80(TWB)2150(2151)	-	SM80(TW)2150(2151)	-	SM80(TW)2150	14.8.4*	SM80(TW)2152	-	SM80(TW)2152	-	SP8	-	DP508	-	SM700 Printer	-	DP824P	-	DI80	-	DC208/DC308	-	SM800(LCD)	-	SM80(TW)CC	-
Filename	Version																														
SM80(TWD)1000	-																														
SM80(TWB)2150(2151)	-																														
SM80(TW)2150(2151)	-																														
SM80(TW)2150	14.8.4*																														
SM80(TW)2152	-																														
SM80(TW)2152	-																														
SP8	-																														
DP508	-																														
SM700 Printer	-																														
DP824P	-																														
DI80	-																														
DC208/DC308	-																														
SM800(LCD)	-																														
SM80(TW)CC	-																														



7.4 Non-Based / Based Downloading

<p>k) Click 'Start Monitoring'.</p>	
<p>l) Power off the scale, hold  and  power on the 'Scale'.</p>	
<p>m) Select Country & Preset Layout.</p>	
<p>n) Wait for flash memory erase confirmation and click 'ok'.</p>	
<p>o) Flash memory erasing.</p>	

p) Downloading.	
q) Flash memory erasing and wait for downloading of program completed.	

7.5 Upgrading Scale firmware Version Using Server / Client Configuration

As mention earlier, the scale software upgrading can use the **Server / Client** configuration.

- 1) Switch off the power of all the scale. Set the server scale to standalone. Using the PC method for upgrading scale software on Section 7.1 **Firmware Version Upgrade** to download the scale software to the server scale. After finish downloading and initialized the server scale, set the spec to let the scale become a server scale again.
- 2) Connect up all the client scales with the server.
- 3) Check that the client scales can establish communication with the server scale. Turn on the power of the server scale first then the client scales. If ETHERNET DOWN appear before the segment check go on, that mean the server and client cannot establish connection. Check spec and clear memory and try again. After checking that the server and client scales are connected (online), turn off the power of the client scales only.
- 4) On the client scale, press and hold  +  when power on. The display of the client scales would show PROGRAM UPDATING and when it finished downloading, it will display UPDATING COMPLETED. After one client scale started to download, another client scales can start to download too. The server scale has to be on at all time during downloading.
- 5) The server scale can serve as many clients scales at any time. This would safe a lot of time comparing to PC method as it can only serve one at any time. But during downloading of software to the client scales, if there is any transaction on the server scale, it will slow down the downloading process.
- 6) After the client scale has finished receiving the software from the server scale, do a default specification initialization process and set SPEC for the client scale to become client scale again.

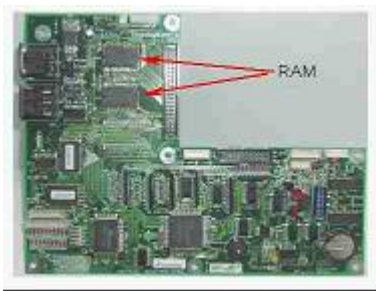
8. HARDWARE SETTING

8.1 Memory Expansion

The main board of TWB-09100 is for SM 300. Standard memory size on the SM 300 is 1M bytes. The standard memory is using two SRAM, HY 628400 ALL-55 (Normal Pin). It can store approximate 1,685 PLUs with 70 characters per PLU. The memory can be expanded an additional of 1M bytes to 2M bytes, to store up to approximate 4000 PLUs with 70 characters per PLU.

A total of two SRAM, MEM 5408 ART-55LL (Reverse Pin), is needed for the memory expansion.

Please refer to the following diagram for each SRAM location. Solder two SRAM at the bottom of SM 300 Main Board, TWB-09100, which is locate opposite side of standard memory. After memory expansion is soldered, it is a “must” to do a RAM check (**refer to Section 4.1.2** for more information) to make sure that SRAM are soldered properly.



This is the main board for SM 300 (TWB-09100).

The arrow indicated the RAM location.

The location of solder the additional 1 M Bytes RAM are at the other side of these 2 RAMs IC as shown at figure below.

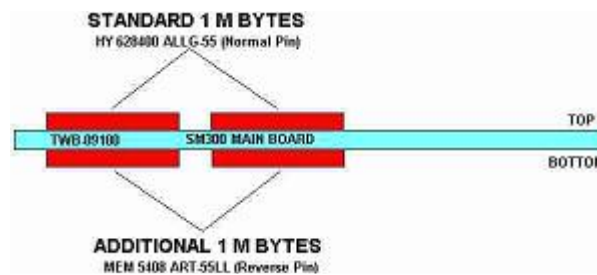







Figure 5. The location of the additional memory

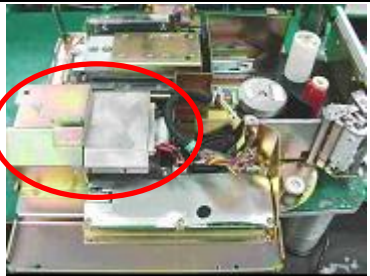
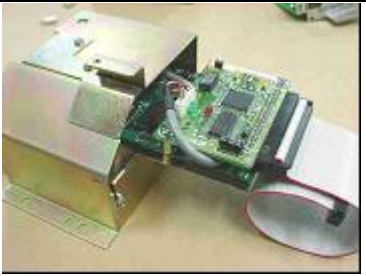


8.2 Interface Add On

Some option of the SM 300 Pole or Bench type got no interface (Ethernet and RS485) when customers place their order. This section is about how to install the interface board.

		
<p>1. Open the interface cover 2. Unscrew 2 screws on the plate.</p>	<p>3. Take out the plate. 4. There is a slot for the interface board</p>	<p>5. This is the Interface board.</p>
		
<p>6. Insert the Interface Board into the slot.</p>	<p>7. Put the plate back and screw.</p>	

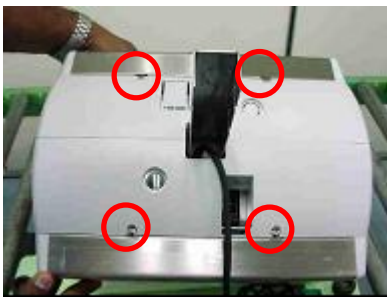

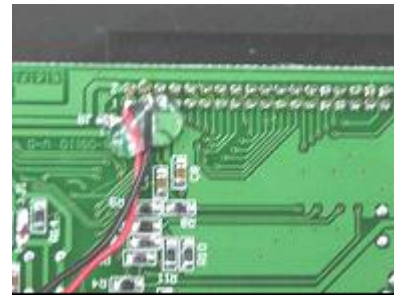
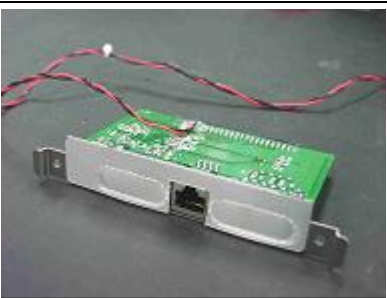

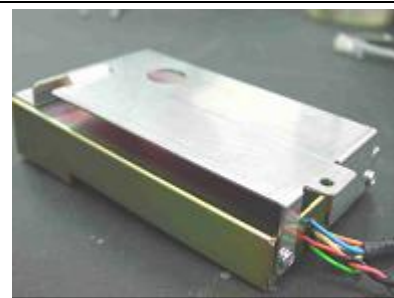



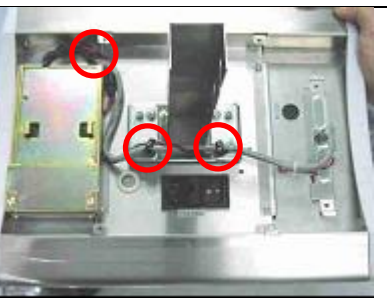


8.3 RF Kit Interface Add On

8.3.1 All Models Except Hanging Type

		
<p>1. Open top cover, loosen 3 screws and disconnect flat cable for Interface Assembly.</p>	<p>2. Connect flat cable to RF Kit Interface and mount RF Kit to scale using same screws.</p>	<p>3. Connect wire back on main board and then cover back top cover.</p>
		
<p>4. Insert the PCMCIA card upside down.</p>		

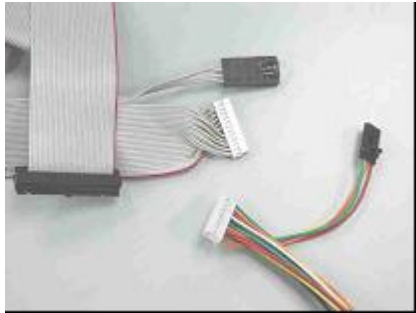

Note: After install the RF Interface, please refer Chapter 6.3 Wireless Configuration For Model SM 300.

8.3.2 Hanging Type

		
1. Loosen 4 screws on top of the scale to remove the top cover.	2. Loosen 2 screws as indicated to remove the Ethernet Interface.	3. Solder wire to Ethernet Interface Board. Solder the RED wire (+ve) at Pin 1 and the BLACK wire (-ve) at Pin 3.
		
4. This is after the Ethernet Interface Board rework.	5. Fixing back Ethernet Interface Board using same screws.	6. The RF Interface Kit, which to be mounted to SM300 Hanging.
		
7. Fixing the RF Interface at the opposite side of the Ethernet Interface Board with 1 screw.	8. Connect this connector for the power.	9. Plug-in the Ethernet cable to the Ethernet socket.
		
10. Arranging the wire properly using the cramp as indicate.	11. Insert the RF Card follow the arrow direction.	12. Fixing back the top cover using same screws.

Note: After install the RF Interface, please refer **Chapter 6.3 Wireless Configuration For Model SM 300.**

8.4 Change of Cable

	
<p>1. The new 2 connectors use in SM300 Self-Service instead of old connectors.</p>	<p>2. Connect the 2 wires to the main board accordingly, and then connect the black connector together.</p>

9. MISCELLANEOUS

9.1 Error Messages

Error No.	Error Message	Causes
1	PAPER END	Label sensor sense no label. No more labels. Replace label roll.
2	PLEASE PRESS FEED KEY	Label miss feed, press FEED key to align label.
3	PLEASE PEEL LABEL	Peel sensor activated, remove label away from sensor.
4	CHANGE LABEL SWITCH	Remove cassette and set cassette switch to Label.
5	CHANGE RECEIPT SWITCH	Remove cassette and set cassette switch to Receipt.
6	NON PRINT	No manual printing.
7	UNIT PRICE OVERFLOW	Please check unit price
8	TOTAL PRICE OVERFLOW	Accumulated total price is overflow, check unit price.
9	NON LABEL	No free format is programs. Set a free format or use standard format.
10	INSUFFICIENT SPACE	Not enough printing place.
11	NON ADVERTISEMENT	No such advertisement data or number exists.
12	READ FILE	Read file errors. Memory problem. Please clear the memory.
13	NON SHOP NAME	No such shop name data or number exists.
14	PRINTER HEAD NO CLOSE	Thermal head no closed. Please close thermal head.
15	WRITE FILE	Write file errors. Memory problem. Please clear the memory
16	NO MEMORY	Not enough memory. Expand memory or delete unnecessary data.
17	FILE DELETE ERROR	Delete file errors. Memory problem.
18	PLEASE REMOVE WEIGHT	Fixed price item, please remove weigh.
19	PLU NOT EXIST	No such PLU data or number exists.
20	TOTAL PRICE = 0	No total price for item. Unit price or weight is 0.
21	WEIGH ITEM	Multiplication key cannot use for weigh PLU.
22	CANNOT USE IN PRE-PACK	Accumulation is not allowed in Pre-pack mode.
23	PRESET KEY NOT SET	Preset key does not have any preset function or PLU.
24	WEIGHT OVERFLOW	Weight over maximum capacity when print.
25	NEGATIVE TOTAL PRICE	After discount, total price is negative. Check discount setting.
26	TOTAL PRICE OVERFLOW	Total price over the limit to display or print.
27	ILLEGAL OPERATION	Operation procedure is incorrect, please check procedure.
28	QUANTITY = 0	Cannot print when quantity is 0. Please enter a quantity value.
29	PLEASE SET TARE VALUE	When force tare is enable, a tare weight must be entered.
30	KEY INVALID	Key pressed had no function or invalid in certain function.
31	NUMBER INVALID	Only input number or number input is not in the function.
32	EXCEED MAX LIMIT	Max. number of characters reach.
33	SIZE INVALID	No such character size exists. Check the downloaded files.
34	MAIN GROUP NOT EXIST	No such Main Group data or number exists.
35	PLU INVALID	No such PLU data when copy PLU.
36	DEPARTMENT NOT EXIST	No such Department data or number exists.
37	TAX FILE NOT EXIST	No such Tax data or number exists.
38	CLERK NOT EXIST	No such Clerk data or number exists.
39	PLEASE PRESS PLU KEY	Press PLU (#) key. To save data in some procedure.
40	DATE INVALID	Date is not in standard format. Please enter correct date format.
41	TIME INVALID	Time is not in standard format. Please enter correct time format.
42	FUNCTION NOT EXIST	No such function exists. Check SPEC.
43	KEY NOT ASSIGN	Preset key data to be deleted do not exist.
44	KEY ALREADY ASSIGNED	Preset key already been assigned with function or PLU.
45	LOGO NOT EXIST	No such logo data or number exists.
46	LABEL INVALID	No such label data.
47	PLU NOT AVAILABLE	No such PLU data when scanner is use to scan PLU no.
48	DATA INVALID	U1 only. Quantity setting incorrect when using FOR.
49	QUANTITY OVERFLOW	Quantity data over the limit.
50	NO LINK	No acknowledge from FL-1 when sending or receiving data.
51	SYSTEM ERROR	Error when files sending to and receiving from FL-1

52	VERIFY ERROR	Error when verifying files with FL-1.
53	TIME ERROR	Date and time invalid when printing. Reset date and time.
54	BELOW MIN WEIGHT	Weight is below min weight set when printing.
55	REC CHOSEN USED IN MG	The record to be deleted is used by main group.
56	REC CHOSEN USED IN PLU	The record to be deleted is used by PLU data.
57	ACC PRICE OVERFLOW	Accumulated price over the limit.
58	ACC QUANTITY OVERFLOW	Accumulated quantity over the limit.
59	PLEASE SET LABEL QTY	Set print label quantity when the function is use.
60	NOT PREPACK MODE	Some functions only valid in Pre-pack mode.
61	GRAND TOTAL OVERFLOW	Grand total price over the limit.
62	ORG PRICE OVERFLOW	Original price over the limit when discount is use.
63	INGREDIENT NOT EXIST	No such ingredient data or number exists.
64	SPECIAL MSG NOT EXIST	No such special message data or number exists.
65	TEXT NOT EXIST	No such text data or number exists.
66	CLERK ASSIGN	Clerk already assigned. Please choose another clerk.
67	NO PRINT AREA	No print area on label for some function like text, ingredient etc.
68	USER INGRED NOT EXIST	No such user ingredient data or number exists.
69	INSUFF ADVERT SPACE	No enough print area to print advertisement.
70	DISCOUNT PRICE INVALID	Target price not reach for Fixed Price discount.
71	PRINT INHIBITED	Cannot print weigh item at Pre-pack mode.
72	ORG UPRICE OVERFLOW	Original unit price over the limit when discount in use.
73	PLACE NOT EXIST	No place of production data or number exists.
74	SELF SERVICE MODE	Can only use Self-service procedure only.
75	OFF LINE	Client cannot connect with Server.
76	TIME OUT	Time out error.
77	PLACE INSUFF SPACE	Data of place of location print area not enough.
78	NO ITEM CODE	Using of function key-Item code
79	IMAGE NOT EXIST	No such image data or number exists.
80	EXCESS DATA	No such data to be correct when correction of data.
81	WEIGHT TOO LIGHT	Weigh check function.
82	WEIGHT TOO HEAVY	Weigh check function.
83	CLEAR ACCUMULATION	Clerk accumulation not close when clearing transaction in floating clerk.
84	POINT AND SHOP	Can only use Point And Shop procedure only.
85	SCROLL MSG NOT EXIST	No such scroll message data or number exists.
86	SCROLL SEQ NOT EXIST	No such scroll sequence data or number exists.
87	SCROLL SEQUENCE IN USE	Scroll sequence already been use. Choose another sequence.
88	REC CHOSEN USE IN SCSQ	The scroll message data is in used in the scroll sequence.
89	CLERK FILE FULL	Maximum number of clerk use.
90	CLERK IN USE	Calling the same clerk same time when in floating clerk.
91	ETHERNET COM. ERROR	Server down. Check wire and sever scale.

9.2 Table of Characters Code

9.2.1 ASCII Characters

The table shown below is the common use of characters of ASCII code in HEX value. Please enter the hex value when entering commodity name, advertisement, shop name, clerk name, special message, ingredient, text etc. when using the SM 300 **BENCH TYPE**.

↑	↓	→	←												
18	19	1A	1B												
SP	!	"	#	\$	%	&	'	()	*	+	,	-	.	/
20	21	22	23	24	25	26	27	28	29	2A	2B	2C	2D	2E	2F
0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
30	31	32	33	34	35	36	37	38	39	3A	3B	3C	3D	3E	3F
@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
40	41	42	43	44	45	46	47	48	49	4A	4B	4C	4D	4E	4F
P	Q	R	S	T	U	V	W	X	Y	Z				^	_
50	51	52	53	54	55	56	57	58	59	5A				5E	5F
	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
	61	62	63	64	65	66	67	68	69	6A	6B	6C	6D	6E	6F
p	q	r	s	t	u	v	w	x	y	z					
70	71	72	73	74	75	76	77	78	79	7A					
Ç	ü	é	â	ä	à		ç	ê	ë	è				Ä	
80	81	82	83	84	85		87	88	89	8A				8E	
É	æ	Æ	ô	ö			ù		Ö	Ü		£			f
90	91	92	93	94			97		99	9A		9C			9F
á	í	ó	ú	ñ	Ñ				Ë	°		ã	Δ	ρ	x
A0	A1	A2	A3	A4	A5				A9	AA		AC	AD	AE	AF
Ë	≠	Œ	œ	*	ç	Á	À		Ú				Ó		
B0	B1	B2	B3	B4	B5	B6	B7		B9				BD		
	Â						Ã								
	C1						C7								
		Ê		È		Í									
		D2		D4		D6									
	β	Ô		õ	Õ				Ú						
	E1	E2		E4	E5				E9						
	±	≥	≤	Left €	Right €	§		°							
	F1	F2	F3	F4	F5	F6		F8							

REMARK: 1. The small letter only can print at label but cannot print at receipt

9.2.2 TERAOKA Code

The table shown below is the common use of characters of TERAOKA code in numerical value. Please enter the numerical value when entering commodity name, advertisement, shop name, clerk name, special message, ingredient, text etc. when using the SM 300 **BENCH TYPE**.

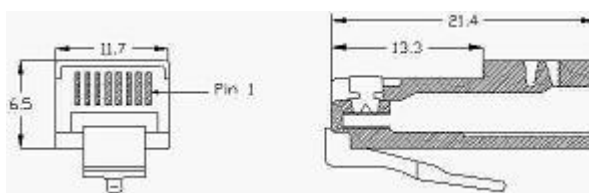
Space	A	B	C	D	E	F	G	H	I
00	01	02	03	04	05	06	07	08	09
J	K	L	M	N	O	P	Q	R	S
10	11	12	13	14	15	16	17	18	19
T	U	V	W	X	Y	Z	,	.	-
20	21	22	23	24	25	26	27	28	29
0	1	2	3	4	5	6	7	8	9
30	31	32	33	34	35	36	37	38	39
@	!	”	#	\$	%	&	/	()
40	41	42	43	44	45	46	47	48	49
,	<	>	+	:	*	À	Â	È	Ê
50	58	59	69	72	73	77	78	79	80
É	Ô	Ç	?	→	←				
81	82	83	96	97	98				

9.3 Wire and Connector

9.3.1 ETHERNET WIRE - STRAGHT CABLE AND CROSSOVER CABLE

Straight cable is for Client / Server connection. Crossover cable is for Hub-to-Hub connection. (Some models of the Hub do not need crossover cable for Hub-to-Hub connection. Please refer to the Hub operation manual if in doubt)

Telephone Modular Plug (Category 5)



Preferable type: CviLux

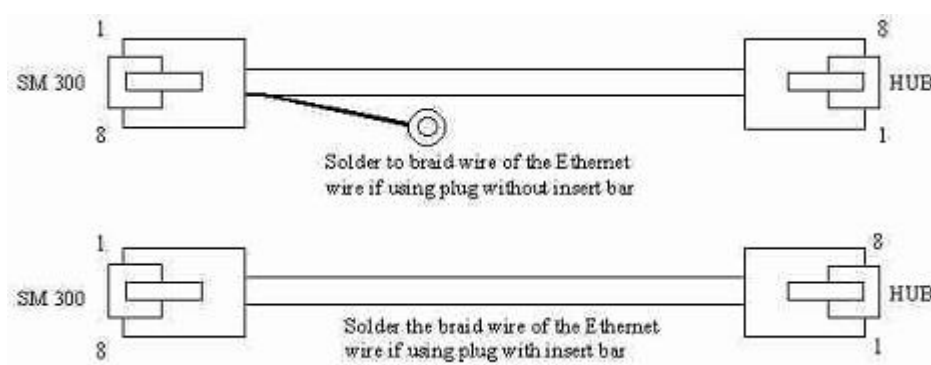
Preferable type : CviLux CJP3 / CviLux CJP4 (with insert bar)

CABLE TYPE

Cable type : 4 pair 100MHz Cat.5 AWG 24 or 26 UTP / FTP / STP.

Preferable type : Cat. 5 AWG 24 or 26 FTP / Cat. 5 AWG 24 or 26 STP
(Recommended for CISPR 22B conformance)

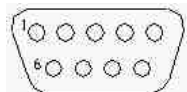
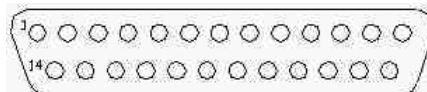
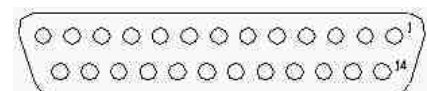
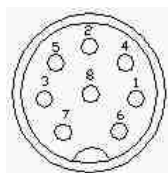
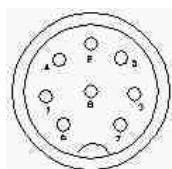
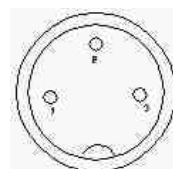
PIN CONFIGURATION

**STRAIGHT CONNECTION**

SCALE		HUB	
PIN	SIGNAL	SIGNAL	PIN
1	TX+	TX+	1
2	TX-	TX-	2
3	RX+	RX+	3
6	RX-	RX-	6
5,7,8	N.A.	N.A.	5,7,8

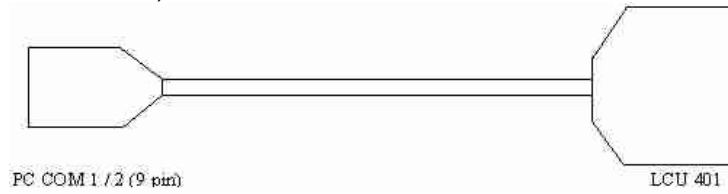
CROSSOVER CONNECTION

SCALE / HUB		SCALE / HUB	
PIN	SIGNAL	SIGNAL	PIN
1	TX+	TX+	3
2	TX-	TX-	6
3	RX+	RX+	1
6	RX-	RX-	2
5,7,8	N.A.	N.A.	5,7,8

9.3.2 RS232C AND MULTIDROP (4 LINE, RS485) WIRE**CONNECTOR**9 Pin D-Sub Connector
Female (Back View)25 Pin D-Sub Connector
Female (Back View)9 Pin D-Sub Connector
Male (Back View)25 Pin D-Sub Connector
Male (Back View)8 Pin DIN Plug
Male (Front View)8 Pin Din Plug
Female (Front View)3 Pin Din Plug
Female (Front View)

PC (9 PIN) TO LCU 401

(FOR PC to LCU 401 communication)



9 Pin D-Sub (Female)

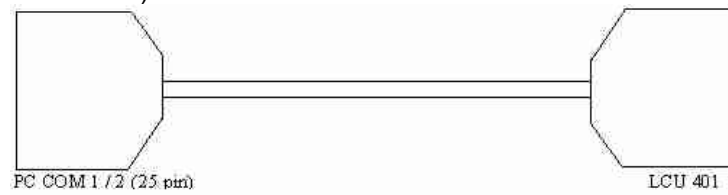
Pin	Signal
1	CD
2	RXD
3	TXD
4	DTR
5	GND
6	DSR
7	RTS
8	CTS
9	CI

25 Pin D-Sub (Male)

Signal	Pin
CD	8
RXD	3
TXD	2
DTR	20
GND	7
DSR	6
RTS	4
CTS	5
CI	22

PC (25 PIN) TO LCU 401

(For PC to LCU 401 communication)



25 Pin D-Sub (Female)

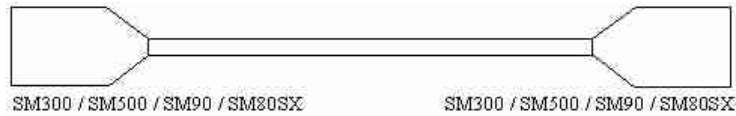
Pin	Signal
2	TXD
3	D
4	RTS
5	CTS
6	DSR
7	GND
8	CD
20	DTR
22	CI

25 Pin D-Sub (Male)

Signal	Pin
TXD	2
RXD	3
RTS	4
CTS	5
DSR	6
GND	7
CD	8
DTR	20
CI	22

SCALE TO SCALE

(For LCU 401 to scale and scale-to-scale communication)



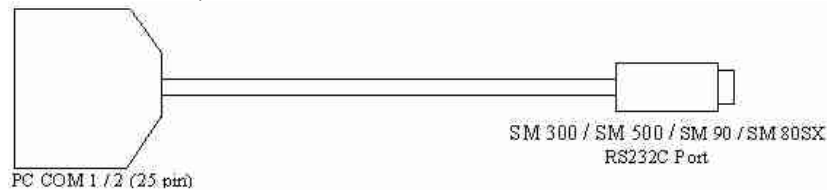
9 Pin D-Sub (Male)		9 Pin D-Sub (Male)	
Pin	Signal	Signal	Pin
1	IN	IN	1
2	IN	IN	2
3	OUT	OUT	3
4	OUT	OUT	4
5 to 8	N.C.	N.C.	5 to 8
9	GND	GND	9

** REMARK:

Please solder the FG (Film Ground) of the cable to the metal casing of the connector for more isolation to noise.

PC (25 PIN) TO SCALE RS232C PORT

(For PC and PC FL-1 communication)



25 Pin D-Sub (Female)		8 Pin DIN plug (Male)	
Pin	Signal	Signal	Pin
2	TXD	RXD	4
3	RXD	TXD	5
7	GND	GND	2
4	RTS	RTS	6
5	CTS	CTS	7
8	CD	DSR	3
6	DSR		
20	DTR		

PC (9 PIN) TO SCALE RS232C PORT

(For PC and PC FL-1 communication)

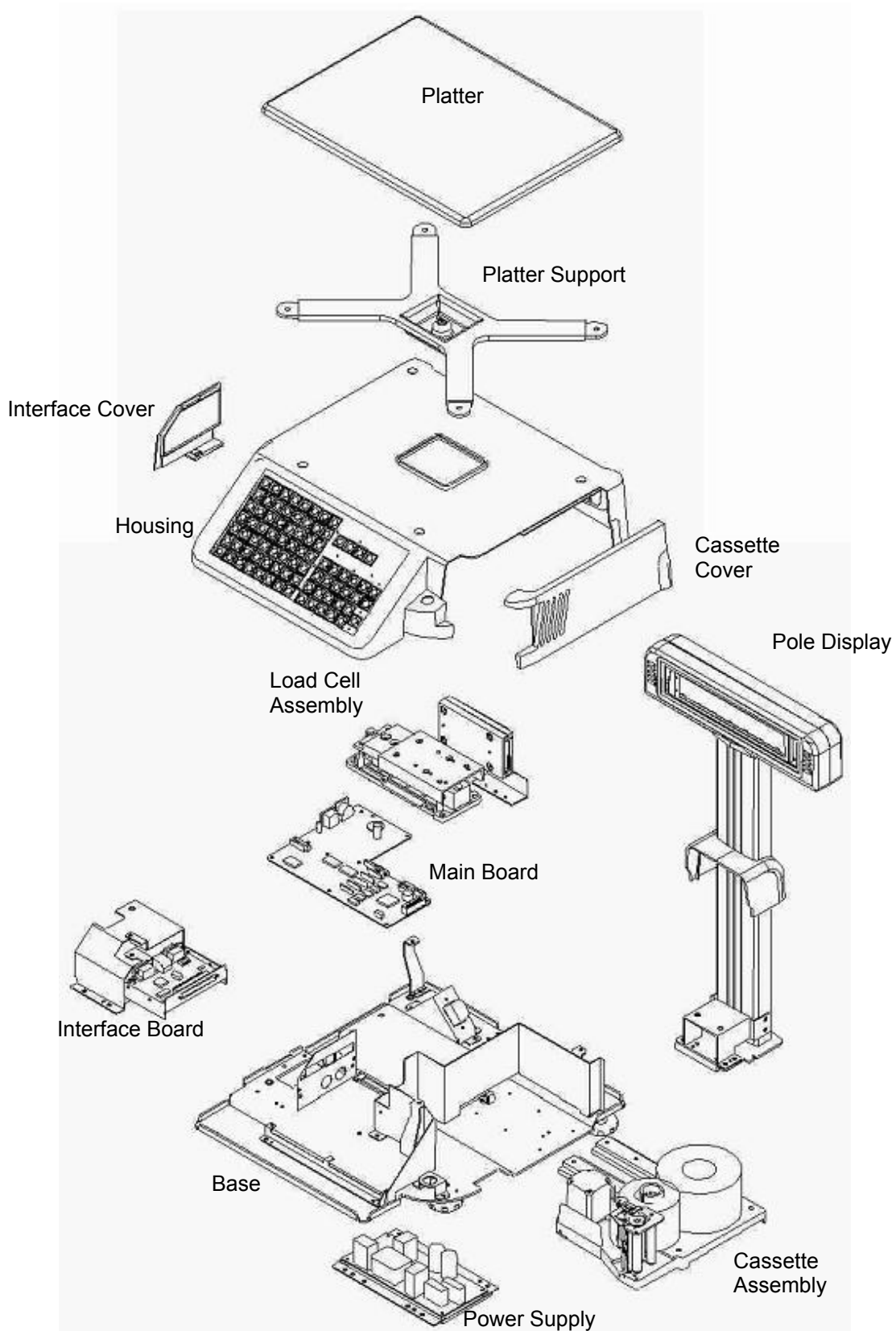


9 Pin D-Sub (Female)		8 Pin DIN plug (Male)	
Pin	Signal	Signal	Pin
3	TXD	RXD	4
2	RXD	TXD	5
5	GND	GND	2
7	RTS	RTS	6
8	CTS	CTS	7
1	CD	DSR	3
6	DSR		

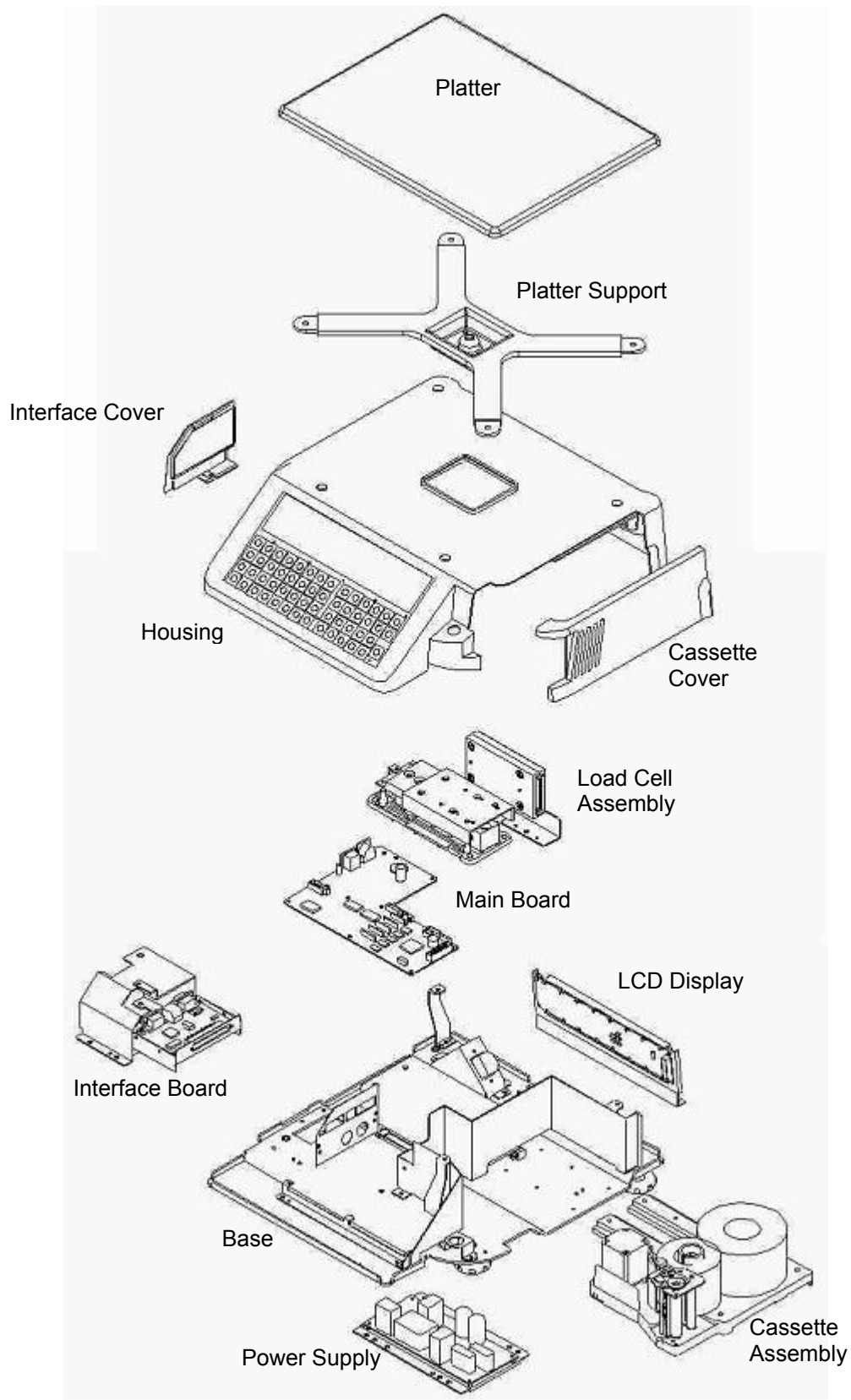
4	DTR	
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10. Exploded View

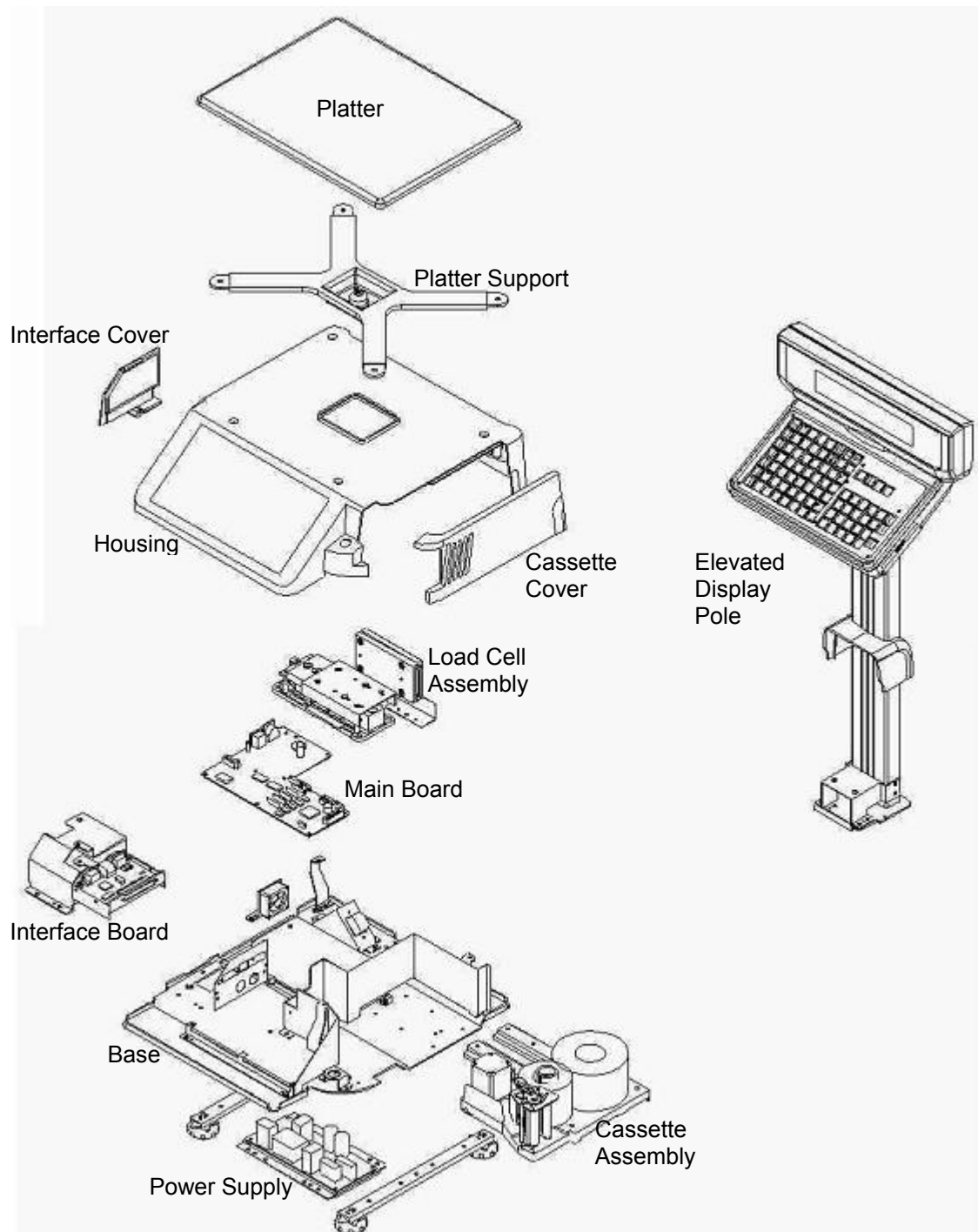
10.1 Pole Type

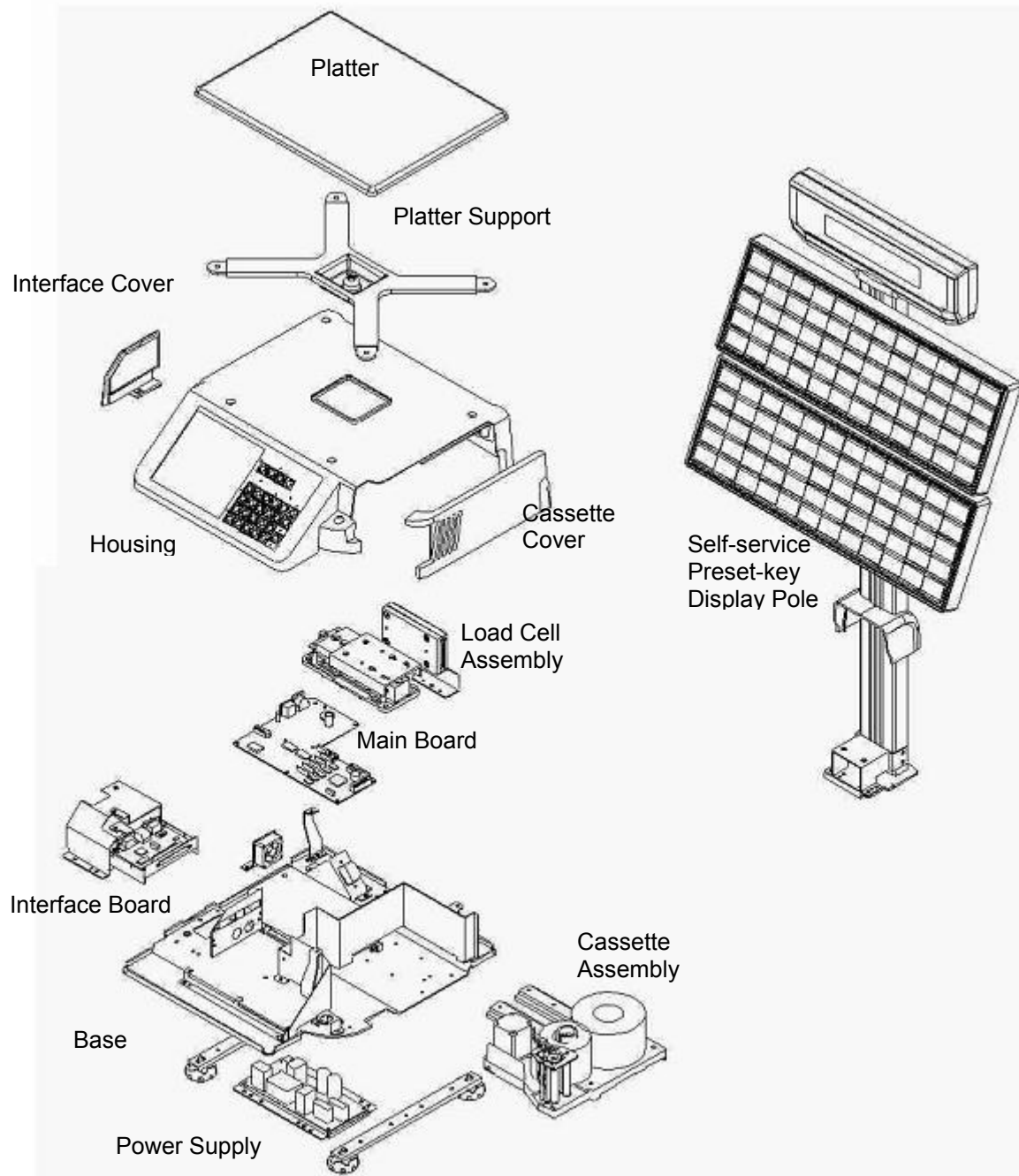


10.2 Bench Type

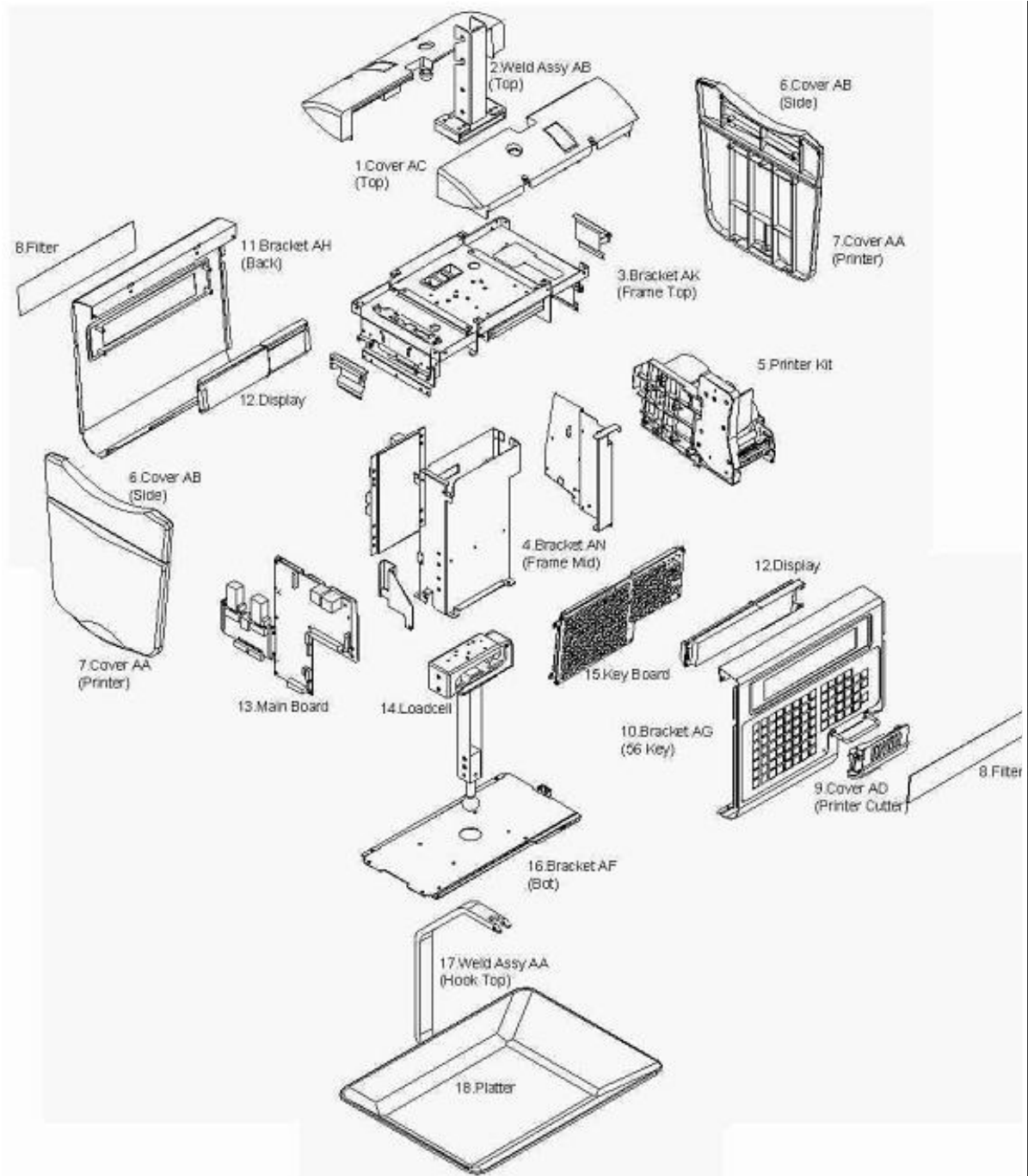


10.3 Elevated Type

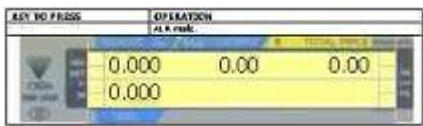


10.4 Self-Service Type

10.5 Hanging Type



11. REVISION RECORDS

Serial no.	Date	Rev. Status	Description of Changes	Software Version	Remarks
001	18Jan	00		V1.99	Edition 1
002	Mar'02	01	<p>Safety Precaution – Included Cautions</p> <p>Continuous Page Number have been changed (e.g. 5–4) Stand for Chapter 5 Page 4</p> <p>SM300 Service Manual 2nd Edition – Included SM300 BS and SM300H</p> <p>Page 1-1, 1-2 – SM300BS, SM300H information added and Flash memory changed.</p> <p>Page 2-8 – Hanging Information added</p> <p>Page 3-2 – Hanging Information added</p> <p>Page 4-2 – Adding Header for hardware testing</p> <p>Page 5-3 to 5-7 – Hanging Information added</p> <p>Page 7-1 to 7-5 – Updated</p> <p>Page 9-1 to 9-8 – Updated</p> <p>APPENDIX</p> <p>Exploded View – Updated</p> <p>Block Diagram – Updated</p> <p>Circuit Diagram – Updated</p> <p>Specification List – Updated</p>	V2.47	Edition 2
003	Feb'03	02	<p>Actual Display Layout as shown below</p>  <p>Page 4-4 & 4-5 – Show the TEST CONNECTOR at the section, respectively.</p> <p>Page 4-10 – New printer kit information added.</p> <p>Page 5-2 – Interface Bracket Changed (Photos)</p> <p>Page 5-2 – Whole Printer Kit (Drawer) Changed (Photos)</p> <p>Page 5-3 – Printer Thermal Head Changed (Photos)</p> <p>Page 6-7 to 6-8 – Server IP Address information added.</p> <p>Page 6-9 – Subnet Mask information added</p> <p>Page 6-13 – Wireless Configuration information added.</p> <p>Page 7-1 – WinDload ver2.10 information instead of WinDload ver2.04</p> <p>Page 7-5 – Country Selection add in before start perform downloading.</p> <p>Page 8-2 & 8-3 – RF Kit Interface Add On information added (all models).</p> <p>APPENDIX</p> <ol style="list-style-type: none"> Both Block Diagram & Circuit Diagram have been removed Add 20 New Specs in Customer Spec (Rezero 141) Add 3 New Spec in W&M Spec (Rezero 142) 	V14.84	Edition 3
004	Apr'03	03	<p>[Tahoma Font] used in 4th Edition and above.</p> <p>Most of the drawings shown in the SERVICE MANUAL are replacing by scanned images.</p>	V14.84	Edition 4

			<p>Page 1-2 – Display Device [LCD 5358 SYBYTNZ-T] instead of [IDW RD747SG-LG]</p> <p>Page 1-2 – Thermal Head [Kyocera KYT-56-8MPP1-TRS2] instead of [Kyocera KYT-56-8MPP1-TRS]</p> <p>Page 1-2 – DC Stepping Motor [23LM-C035-K54V] Instead of [Minebea 17PM-K448-G5V]</p> <p>Page 1-2 – Power Supply [ZD75-0524/1] Instead of [ZD75-0524]</p> <p>Page 5-2 – Disassembly Pole Display Unit information added</p> <p>Page 5-4 – Disassembly Self-Service Key Board & Display Unit information added.</p> <p>Page 8-4 – Chapter 8.4 added – Self-Service cable changed.</p>		
005	July'05	04	Revision up Spec List	V17.25	Edition 5
006	Sept '06	05	Updated the Hook AA and Hook Holder dimension & drawing. Change the scale Ethernet Address code.	V18.49	Edition 6